

MANUFACTURERS' RECORD

A WEEKLY REVIEW OF THE IRON, STEEL, METAL & HARDWARE TRADES.

AND A MANUFACTURING AND TEXTILE PAPER, DEVOTED TO THE UPBUILDING OF SOUTHERN MANUFACTURES AND THE DEVELOPMENT OF THE MATERIAL RESOURCES OF THE SOUTH.

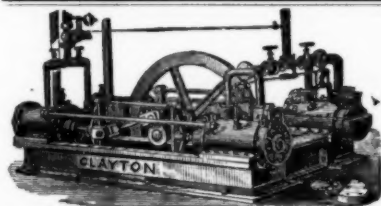
VOL. 7. No. 6.
WEEKLY.

BALTIMORE, MARCH 21, 1885.

\$3.00 PER ANNUM.
SINGLE COPIES, 10 CENTS.

MANUFACTURERS OF — **JAS. SMITH & CO.** — DEALERS IN —
CARD CLOTHING Works, 413 to 421 Race St., Cor. of Crown. **Manufacturers' Mill Supplies**
Of Every Description. **COTTON and WOOLEN MACHINERY.** Office & Store, 137 Market St., Philadelphia. Of Every Description.

INDIANAPOLIS TERRA COTTA CO. Manufacturers of All Kinds of
INDIANAPOLIS, IND. Office, Fletcher & Sharpe's Block, Ind'olis. **TERRA COTTA.**
Works, Brightwood, INDIANA.
WILLIAM F. STILZ, President. **G. L. DICKENSON,** Secretary and Treasurer. **JOS. JOINER,** Superintendent. Send for Estimates, Catalogues and Samples.



Improved Duplex Air Compressor.

CLAYTON AIR COMPRESSORS

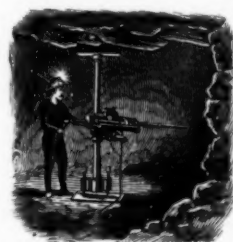
Rock Drills, Mining Pumps and General Mining Machinery,
For Catalogues, Estimates and Information, Address

CLAYTON STEAM PUMP WORKS, 45 & 47 York St., BROOKLYN, N. Y.

ELEVATORS

Send for Illustrated Circulars.

MORSE ELEVATOR WORKS.
MORSE, WILLIAMS & CO. Successors to CLEM & MORSE
Manufacturers and Builders of HYDRAULIC STEAM, BELT and Hand-Power, PASSENGER and FREIGHT **ELEVATORS**
Office: 411 CHERRY STREET, PHILADELPHIA, PA.
Works: FRANKFORD AVE., WILDEY & SHACKANAXON STS.
Branch Office, 108 Liberty Street, NEW YORK.



"ECLIPSE" "STRAIGHT LINE" ROCK DRILLS, AIR COMPRESSORS,

Machinery for Tunneling, Grading, Mining, Quarrying, etc.

TEN COMPLETE TUNNELING PLANTS FURNISHED FOR SOUTH PENNA. RAILROAD, PA.

FOR CATALOGUES, ESTIMATES, &c., ADDRESS,

INGERSOLL ROCK DRILL CO., 10 Park Place, N. Y.

MORTON, REED & CO., Agents, Baltimore.



LOWELL CARD CO. CARD CLOTHING

I. CLARK, President.

S. S. GOULD, Treasurer.

Of Every Description, LOWELL, MASS.

A. J. SHULTZ, President.

B. C. ALVORD, Secretary.

SHULTZ BELTING COMPANY, ST. LOUIS, MO.

Manufacturers of Shultz Patent Fulled Leather Belting, Lace and Picker Leather.

OUR BELTING is made of Leather, tanned on the surfaces only; the interior (which is the fibre and strength of the hide) is not tanned, but Rawhide fulled and softened by our patent process. Our belting is more pliable, and hugs the pulley better and transmits more power than any other Belt. It does not pull out at the laccholes or rivets. It stretches less than any other Belt. It works equally well for the largest Driving Belts or for the fastest running machinery and smallest pulleys. OUR LACE LEATHER is made of Rawhide, by our patent process, without any tanning and is stronger and will wear better than any other. WE ALSO MAKE THE BEST PICKER LEATHER AND BELT GREASE IN THE COUNTRY. Satisfaction guaranteed.

Southern Agents—FRED. N. OGDEN, New Orleans, La.

J. H. COFFIN & CO., Memphis, Tenn.

J. L. LINDSAY, Richmond, Va.

E. VAN WINKLE & CO., ATLANTA, GA.

—MANUFACTURERS OF—

COTTON SEED OIL MACHINERY,

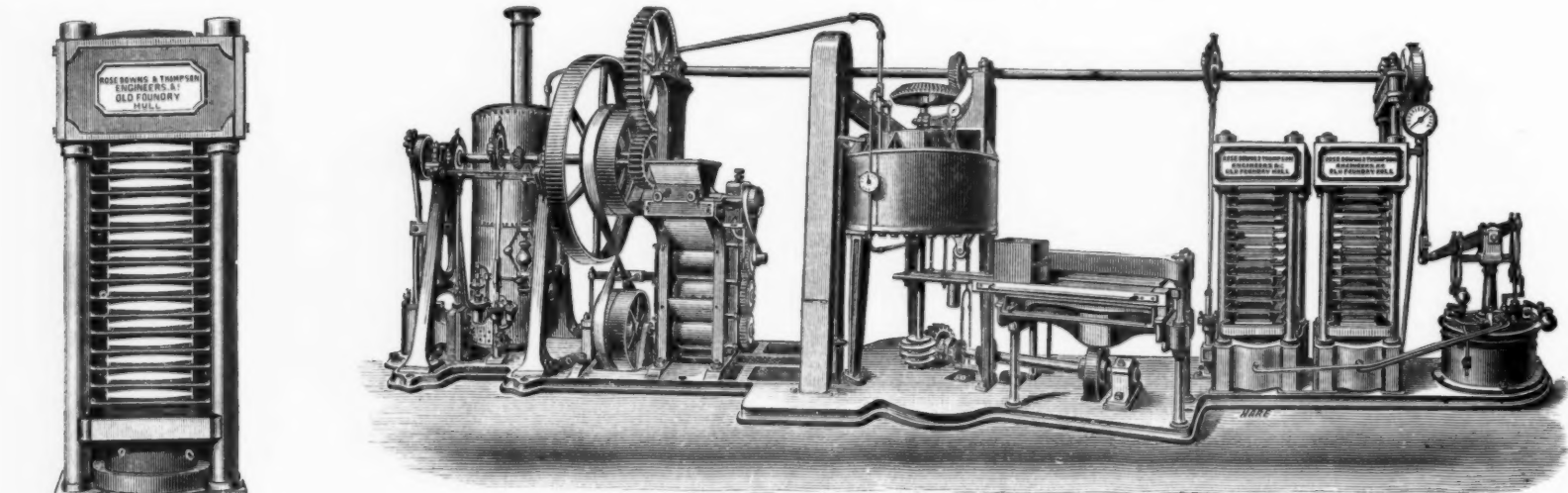
From 5 to 100 Ton Capacity.

PLANS of Mills furnished to effect best rates of INSURANCE.
We build all our mills COMPLETE IN EVERY DETAIL,
and turn over the machinery IN ACTUAL OPERA-
TION, under OUR GUARANTEE of CAPACITY
and YIELD per ton; also

❖COTTON GINNING AND BALING MACHINERY.❖

For Particulars and Estimates, address

E. VAN WINKLE & CO., ATLANTA, GA.



REVOLUTION IN

Cotton-Seed Crushing.

UNQUALIFIED SUCCESS OF
ROSE, DOWNS & THOMPSON,
HULL, ENGLAND.

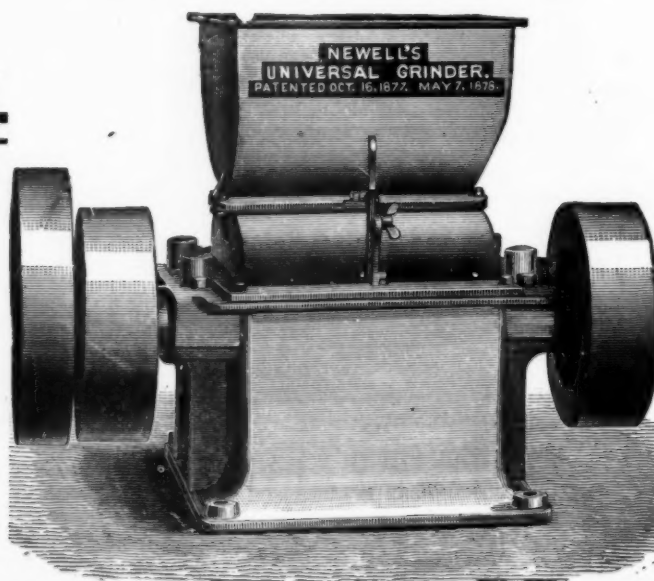
Anglo-American System of Extracting Oil from Cotton Seed,

SOLE AGENTS FOR THE UNITED STATES AND CANADA.

The Newell Universal Mill Co.

10 BARCLAY STREET, NEW YORK,

Who also manufacture the NEWELL MILL in all its forms and sizes.
A large stock assorted sizes of Engines and Boilers constantly on hand for
immediate delivery.



AMERICAN SUPPLY COMPANY,

Formerly Myron Fish & Co., of Valley Falls, R. I., and Kendrick Loom Harness Co., of Providence, R. I.

— MANUFACTURERS OF —

LOOM HARNESS AND REEDS,

Oak Belting, Lace and Picker Leather, and Dealers in Supplies for Cotton, Woolen and Silk Mills.

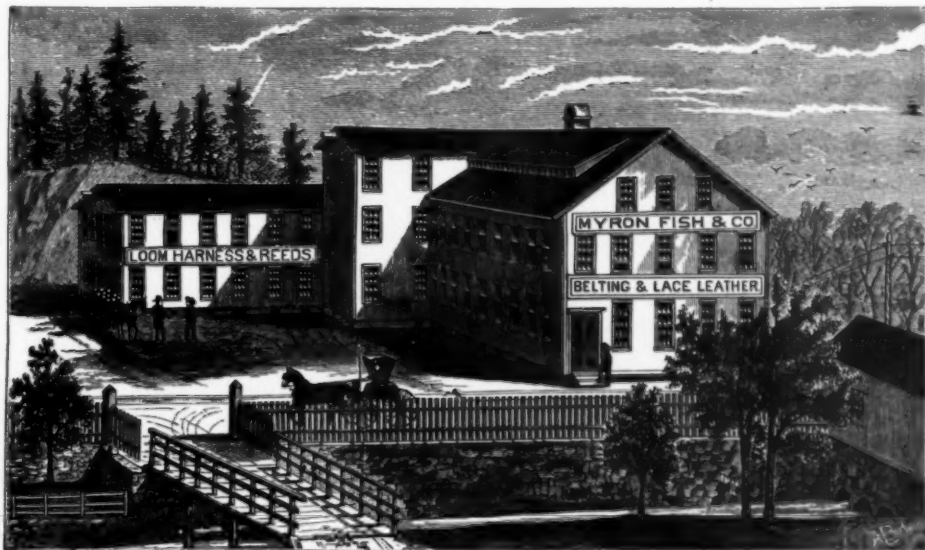
Agents for Joseph Noone's Sons'

Roller, Slasher & Clearing Cloths.

— Agents for —

RODDICK'S PATENT IMPROVED OIL CANS.

Calf, Sheep and Lamb Roller Skins, and Roll Covers' Tools.



Of all Descriptions.

WIRE HEDDLES and WIRE GOODS

Shuttles & Heddle Frames,

Unequalled Facilities for Furnishing

WE HAVE

— Special Notice to Worsted and Silk Mills. —

We Manufacture both Worsted and Cotton Machine-Knit Mail Harness for Weaving Fine Worsted and Silk Goods. Also a Full Line of Supplies for Jacquard Looms.

Office and Salesrooms, 10 Exchange Place, Providence, R. I.

— FACTORIES: —

PROVIDENCE and VALLEY FALLS, R. I.

A. D. LOCKWOOD, Pres. JOHN KENDRICK, Vice-Pres. MYRON FISH, Treas. JOHN A. CARTER, Sec. JOSEPH H. KENDRICK, Gen'l Agent.

THE WHITIN MACHINE WORKS,

J. LASSELL, President and Treasurer.

G. E. TAFT, Agent.

H. ELLIS, Superintendent.

— MANUFACTURERS OF —

COTTON MACHINERY

Openers, * Lappers, * Cards,

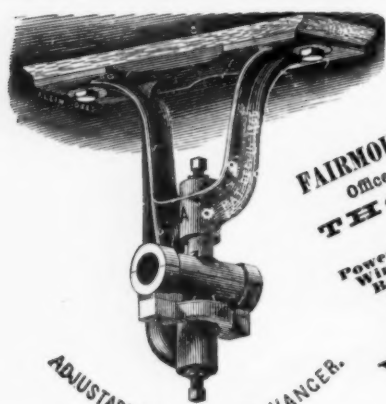
Railway Heads, Drawing,

RING SPINNING, SPOOLERS, WET and DRY TWISTERS,

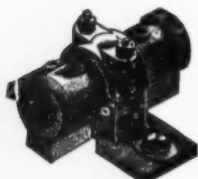
REELS,

WARPERS, * DRESSERS, * LOOMS, * & C.

Whitinsville, Worcester County, Mass.

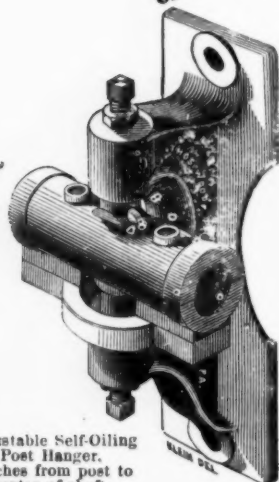
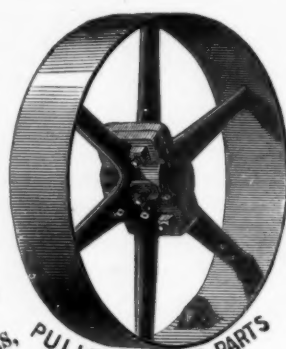


ADJUSTABLE SELF-OILING HANGER.

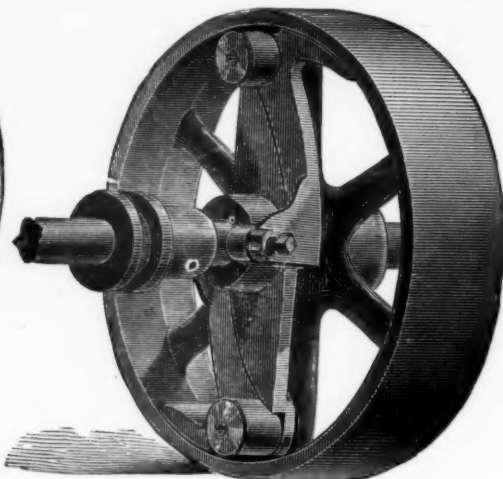
Ball and Socket
Self-Oiling Pillow Block.DOUBLE-BRACED ADJUSTABLE
SELF OILING HANGER.

FAIRMOUNT MACHINE WORKS.
Office, 2106 Wood St., Philadelphia.
THOMAS WOOD,
Manufacture as Specialties
Power Looms, Patent Hobbin or Quill
Winding Machines, Plain and Presser
Beaming Machines, Drying, Sizing,
or Warp Spinning, Fulling and Cal-
endering Machines,
WARPING MILLS,
16, 18 and 20 yards Circumference,
WITH IMPROVED HECKS.

SHAFTING,
With Patent
ADJUSTABLE SELF-OILING HANGERS,
8, 10, 12, 15, 18, 20, 24 and 30 in. drop.
Also WALL, POST AND GIRDER HANGERS.
Pulleys, from 4 inches to 10 ft. in diam. or
PATENT FRICTION PULLEY.
Pulleys in two parts, any size required.
PATENT HOISTING MACHINES.
Oil Presses for Lard, Fish and Paraffine.

Adjustable Self-Oiling
Post Hanger.
6 inches from post to
center of shaft.

PULLEY IN TWO PARTS



PATENT FRICTION PULLEY.

Simple, reliable and very durable.
Suitable for any kind of driving, they
serve equally well as driver or driven.

Special Driving,
such as Angular, Muley, and Gallows Driving,
furnished for any position
where possible to transmit power by belts.
PULLEYS from 4 inches to 10 feet in diameter.

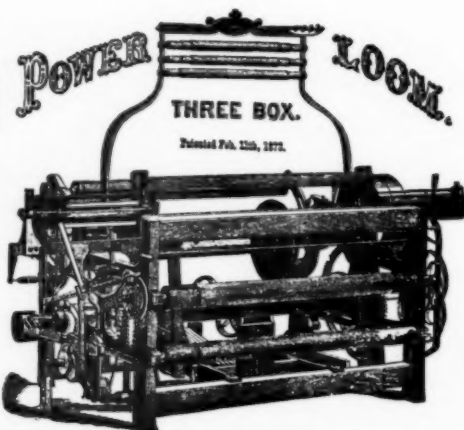
Why use old style Bearings, that require oiling
every day, when you can get Bearings at less cost
that only require oiling once in Six Months, and
thus save oil and labor enough to pay for the bear-
ings in use. Test the matter for yourselves; a
trial always secures the trade.

ADDRESS.

THOS. WOOD,

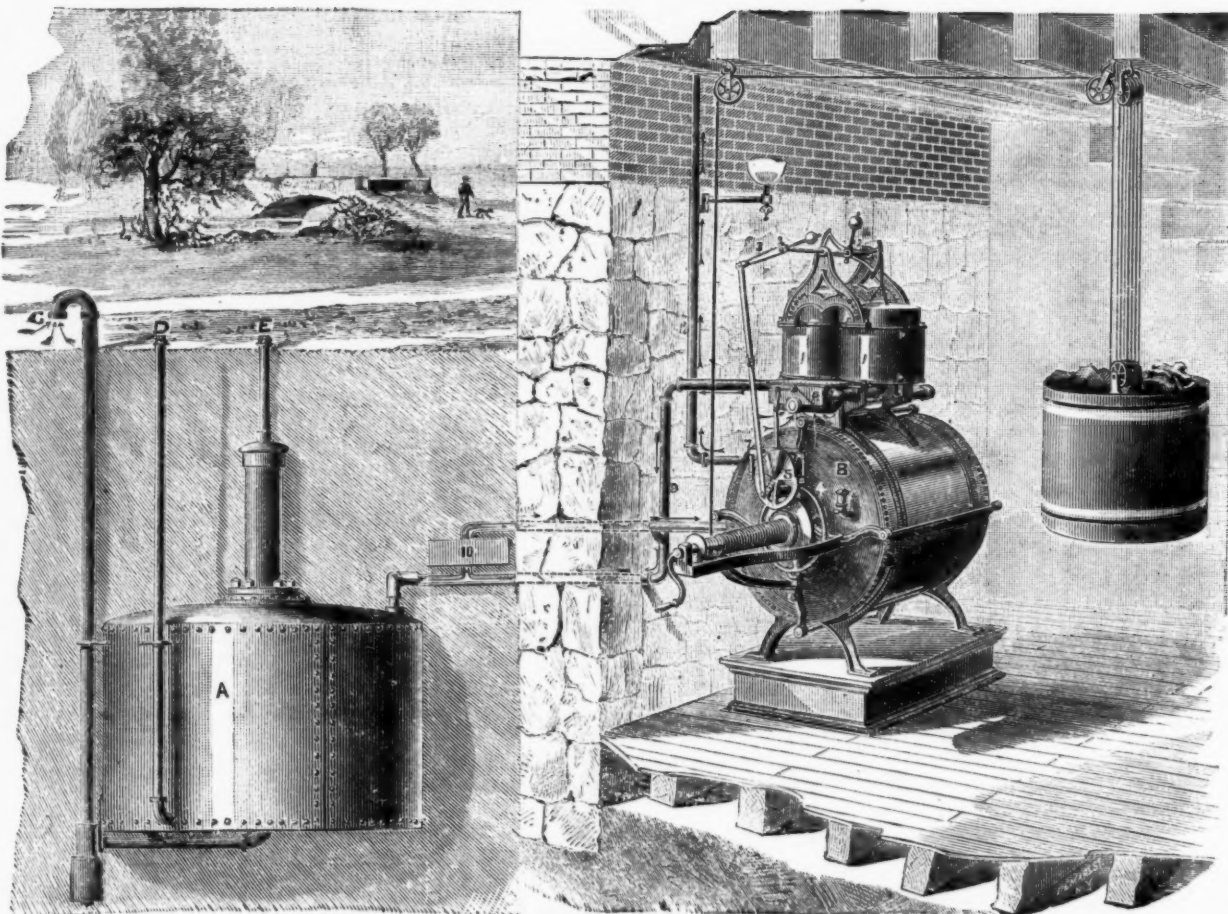
Office, 2106 Wood St.

PHILADELPHIA, PENNA., U. S. A.



TIRRILL'S EQUALIZING GAS MACHINE!

Only Gas Machine
that makes
**UNIFORM
GAS.**
No Fire,
No Smoke,
No Smell.
Plain Bat Wing
Burners only
Required.
GAS ALWAYS
Perfect.



Less than \$1.
Per Thousand
Feet.
Machines of any
CAPACITY.
Read Circulars
Before Buying.
Simple,
Perfect,
and Reliable.
**Absolutely
Safe.**
Approved by
Underwriters.
Read who en-
dorses Them.

FOR CIRCULAR AND FULL INFORMATION, ADDRESS:

TIRRILL'S GAS MACHINE CO., 39 Dey St., New York, N. Y.

HOWARD & BULLOUGH, & RILEY,

BUILDERS AND IMPORTERS OF

COTTON MACHINERY.

ALSO, IMPORTERS OF

Wool, Worsted and Flax Machinery and English Card Clothing. Hardened and Tempered Steel Wire a Specialty.
MILL ENGINEERS.

No. 19 PEARL STREET, BOSTON, MASS.

GREAT SUCCESS OF OUR
PATENT ELECTRIC STOP-MOTION,

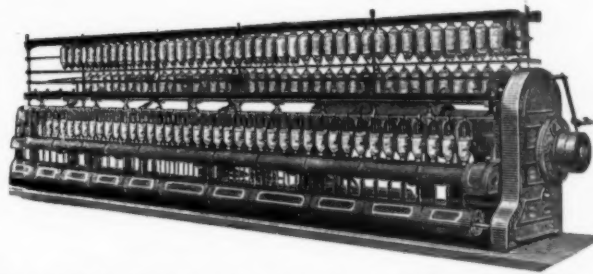
ALREADY APPLIED TO OVER

9,000 DELIVERY HEADS
62,000 INTERMEDIATE
OF DRAWING, AND
ROVING SPINDLES.

The quality of Sliver produced by our Frames surpasses all others, and Waste, Single and Roller Laps are prevented, and production increased.

Correspondence Solicited.

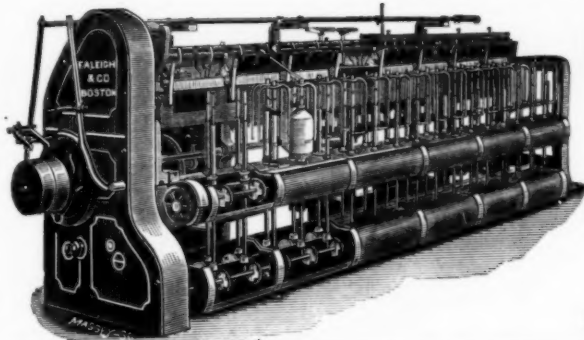
Send for Circulars.

SLUBBING AND ROVING FRAMES WITH LATEST AND BEST IMPROVEMENTS.

SPECIALTIES:

EXHAUST OPENERS, LAPPERS, (LORD'S
EVENERS) IMPROVED ROLLER CARDS,
PRODUCE MORE AND MAKE LESS
WASTE THAN ANY OTHER.**7,000 SELF-STOPPING WARPERS,**
Already working with latest improvements.**800 CYLINDER SLASHERS**
Now at work in America alonePatent and plain Spindle, Spinning and Twisting Frames,
Spoolers, Reels and Circular Warpings, Cloth Folders, Sire Kettles
plain and Fancy Looms, Spindles, Flyers and Fluted Rolls.**F. A. LEIGH & CO.**
Importers of Mill Machinery,

—No. 40 WATER STREET, BOSTON, MASS.—

Openers, * Lappers, * Cards, * Drawing,
Slubbing and Roving Frames,
CARD CLOTHING, Etc.

Correspondence Solicited.

Send for Circulars.

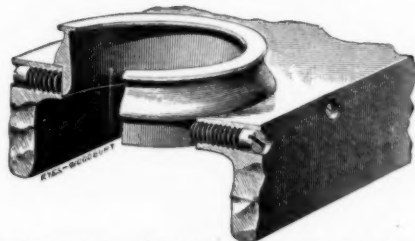
WHITINSVILLE SPINNING RING CO.

WHITINSVILLE, MASS., U. S. A.

SUPERIOR WORKMANSHIP.

NOT EXCELLED IN DURABILITY.

EVERY RING WARRANTED.



The Simplest and Best Method of Adjusting Rings.



SEND FOR SAMPLE AND PRICE-LIST.

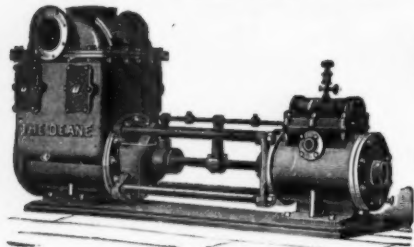
MOSHELEY'S CELEBRATED MOLLIS OIL.It is a splendid lubricator for Stationary Engines, Printing Presses, Paper Mills, Saw Mills,
Cotton and Woolen Mills, Spindles, &c. It is the *cheapest* and *best* Oil for Machinery, Har-
ness, Belts, Boots and Leather generally. Warranted a Water-Proof Leather Preservative.
It is penetrating, and renders soft and pliable the hardest leather.**Fire-Proof, Barn, Fence, Bridge and Roof Paint** MIXED READY FOR USE.Our Fire-Proof Barn, Fence, Roof and Bridge PAINT is unsurpassed for painting exposed surfaces, such as Tin, Iron or Wood Roofs, Wagons, Farm Implements, Fences, Barns, Cars, &c., &c.
mixed ready for use, will not settle, will be found convenient, saving labor and time, and at the same time is handsome and durable. SOLD IN ALL-SIZED PACKAGES FROM 1 to 50 GALLONS.Prices Mailed on Application. **HIRSHBERG, HOLLANDER & CO., 195, 197, 217 and 240 W. Pratt St., Baltimore.****BILLINGS' PATENT BREECH-LOADING SINGLE BARREL SHOT GUN.**Provided with Close
Shooting Detachable
Muzzle for contracting
the shot.Uses the "A"
Brass or Paper
Shells.

MANUFACTURED AND FOR SALE BY

THE BILLINGS & SPENCER CO.,
HARTFORD, CONN.

THE DEANE STEAM PUMP CO., HOLYOKE, MASS.

MANUFACTURE



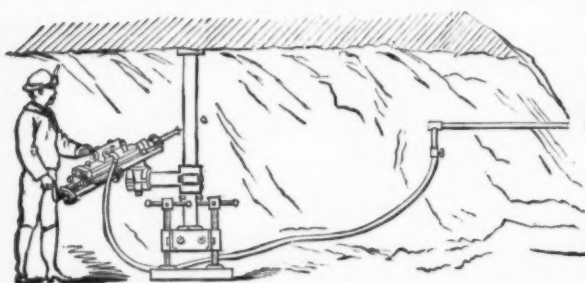
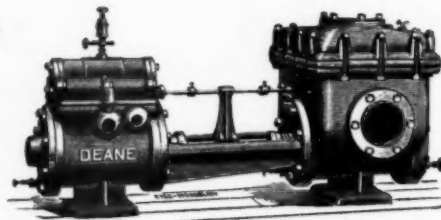
Every variety of Pumping Machinery

VACUUM PUMPS FOR SUGAR WORK, ETC.

IRRIGATION PUMPS ARE SPECIALTIES.

Water Works Pumping Engines for Cities and Towns.

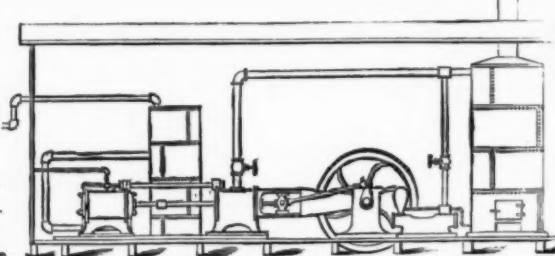
SEND FOR NEW ILLUSTRATED CATALOGUE.



ROCK DRILL.

HOSE.

AIR PIPE.



AIR RECEIVER.

AIR COMPRESSOR.

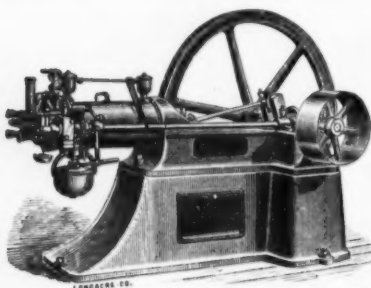
FEED PUMP.

BOILER.

RAND DRILL CO.

23 Park Place, NEW YORK.

Rock Drills,
Air Compressors, and
General Mining Machinery,
Rackarock Blasting Powder,
Blasting Batteries and Fuse.



Over 14,000 in Use.

Otto Gas Engine

20 to 70 per ct. less Gas
consumption than
ANY other ENGINE.

Working Without Boiler, Steam, Coal, Ashes or Attendance.

Started instantly by a Match, it gives full power immediately. When stopped, all expense ceases.

No explosions, no fires nor cinders, no gauges, no pumps, no engineer or other attendant while running. Recommended by insurance companies. UNFURPASSED IN EVERY RESPECT for hoisting in warehouses, printing, ventilating, running small shops, &c. Sizes: 1 to 25-horse power.

Branch Office, 214 Randolph St., Chicago.

SCHLEICHER, SCHUMM & CO., N. E. cor. 33d and Walnut Sts., Philadelphia.

GEORGE DRAPER & SONS, Manufacturers of

COTTON MACHINERY

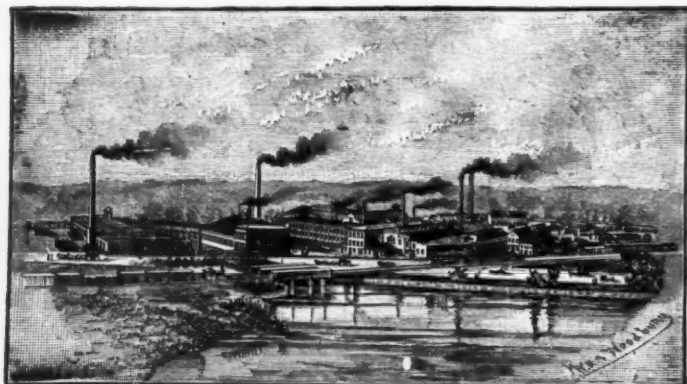
Telegraph Address and Railroad
Station, MILFORD, MASS. }

HOPEDALE, MASS.

Do not fail to visit the World's Exposition at New Orleans, La., and see in operation OUR NEW and IMPROVED MACHINERY for ROVING, SPINNING, SPOOLING, WARPING and TWISTING.

Washburn & Moen Manufacturing Co., Worcester, Mass.

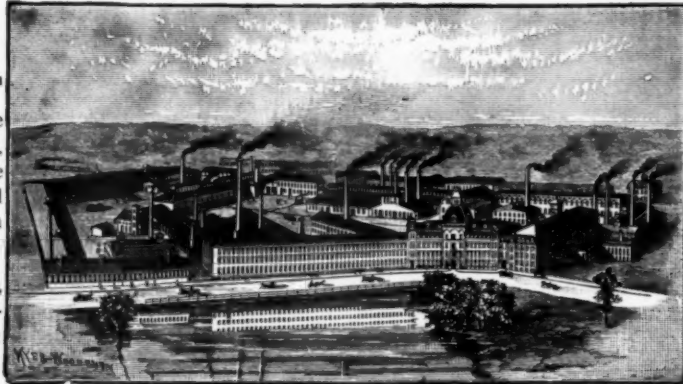
Wire Drawers, and Manufacturers of Iron and Steel Wire of Every Description.



Iron and Steel Telegraph
and Telephone Wire.

Patent Steel Wire Bale
Ties, Pump Chains,
Chain Wire, Steel Wire
for Springs, Needles and
Drills, Watch Main
Springs.

Send for Price-Lists,
Circulars and Descriptive
Pamphlets on Our
Specialties.



NEW YORK WAREHOUSE:
21 Cliff Street,
New York City.

GLIDDEN PATENT STEEL BARB WIRE.

The Best Fence Material in Use.
For Sale by Special Agents and Hardware

Proof against Fire, Wind and Flood.
Dealers in all Parts of the United States.

CHICAGO WAREHOUSE:
107 Lake Street,
Chicago, Illinois.

BALTIMORE Manufacturers' Record.

Published Every Saturday by
BIGSBY & EDMONDS.

B. H. Edmonds. J. W. Bigsby. Wm. H. Edmonds.

R. H. EDMONDS, EDITOR.

—OFFICE,—

71 and 73 Exchange Place, Cor. Commerce St.,
—BALTIMORE.—

NEW YORK BRANCH OFFICE:

Room 6, No. 118 Fulton Street,
J. W. BIGSBY, Resident Partner.

—SOUTHERN OFFICE, ATLANTA, GA.—

J. W. AVERY, Manager.

JAMES L. ELY,

Advertising Agent for New York and Vicinity,
Room 14, 29 Park Row, New York.

Price of Subscription Per Year in Advance:
(POSTAGE INCLUDED.)

To UNITED STATES AND CANADA. \$3.00
OTHER COUNTRIES. — — — 4.50

ADVERTISING RATES:

One square (14 lines Agate, 1 inch) 1 time... \$ 1.50
" " " " " 4 " " " " 5.00
" " " " " 3 mos. " " " " 10.00
" " " " " 6 " " " " 18.00
" " " " " 1 year. " " " " 32.00
For advertising on outside pages add 50 per cent. to
the above rates.
Reading Notices 50 cents per line each insertion.

BALTIMORE, MARCH 21, 1885.

"The New South."

It was expected that "The New South" would be ready for delivery in February, but its publication has been unavoidably delayed by the difficulty in securing some data necessary for its completion. The work has grown in scope and has gone far beyond what it was at first expected to be. Both the author and publishers were unwilling to hurry the work at the expense of thoroughness or reliability. The book will be out within a short time, and will be the best book on the South ever written. In fact it will be the only book giving an accurate and thorough description of the whole South—the South of to-day.

CORRESPONDENCE relating to the manufacturing, mining, lumbering and all other material interests of the Southern States is solicited. Reaching so many capitalists in all parts of the United States seeking profitable investment in the South, the MANUFACTURERS' RECORD offers an excellent chance for the people in that section to place the advantages of each locality before those likely to be interested. We will take great pleasure at all times in telling what has already been accomplished in the South, and showing up the opportunities of doing still more.

THE Charleston News and Courier, commenting on our statistics of live stock in the South, lately published, says: "The showing above given, taken as a whole, may well be regarded with profound satisfaction by every one interested in the prosperity of the South."

Our Statistics of the Industrial Progress of the South.

As the MANUFACTURERS' RECORD is devoted wholly to the development of the material interests of the South, no expense nor work is spared to make it an absolutely reliable exponent of Southern progress. We have no desire to indulge in exaggerated statements of any kind; and, as the Editor of this paper has been for several years engaged specially in statistical work, the absolute necessity for great care in compiling and publishing statistics is fully appreciated. Some one or two papers have claimed that our statistics as to the industrial progress of the South during 1884, published on January 10, were much exaggerated, and they have attempted to point out errors in the list of new enterprises as given at that time. Knowing full well that instead of our figures being too large, as these papers claimed, they were, in reality, too small, as they did not, (and we so stated,) include hundreds of small portable saw mills and other similar small enterprises that were put in operation all over the South in 1884, we did not deem it necessary to reply to the few criticisms made upon them, since it was quite evident that these criticisms were either due to intentional misrepresentation or to carelessness. But as one of our Western exchanges, the *St. Louis Stove and Hardware Reporter*, has courteously called attention to what it claims to be two serious errors, we will show how easy it is for even a critic to be wrong. Speaking of our list of mills, factories, &c., organized in the South during 1884, which we clearly and distinctly said "included some that had been rebuilt after being destroyed by fire," the *Reporter*, in its issue of March 2, says:

"It detracts very seriously, however, from the value of such a list, when it includes the Belmont Nail Co., of Wheeling, West Va., which, as is well known, has been in existence much longer than any trade paper in Baltimore, having been established in October, 1849. In the same list we also find 'Norton Nail Co.,' of Ashland, Ky. It is with regret that such journalistic carelessness should mar what otherwise would be regarded as a laudable enterprise. The 'Norton Nail Works,' be it known, do not exist. The Norton Iron Works, of Ashland, Ky., manufacture pig iron and rails, but were established twelve years ago. Our contemporary deserves much credit for what it has done to show the marvellous progress of the South, and we believe this growth to be healthful and permanent."

Apparently the *Reporter* has discovered two serious mistakes, but a slight examination might have saved it from making two. The Belmont Nail Co. was credited in our list with having built a nail mill, and we have in our possession a letter from Mr. J. D. DuBois, secretary of the Belmont Nail Co., stating that his company *did* build a nail mill in 1884, which, including improvements to their old mill, "cost about \$50,000." Investigation before criticizing would have kept the *Reporter* from making this mistake. The *Reporter* says: "In the

same list we find the Norton Nail Co., of Ashland, Ky." In this there is also a slight mistake, as the name is given in our list as "Norton Nail Works." The *Reporter* says it should be the Norton Iron Works, which were built twelve years ago and which manufacture pig iron and rails. Evidently the *Reporter* is not aware of the fact that the Norton Iron Works were destroyed by fire in 1883, and completely rebuilt in 1884 at a very heavy cost. It says that these are not nail works; that they produce pig iron and rails. Turning to the official report of the "Iron and Steel Works of the United States for 1884," by Mr. James M. Swank, secretary of the American Iron and Steel Association, we find:

"Norton Iron Works, Ashland, Boyd Co., Ky. Put in operation 1874; destroyed by fire in 1883 and rebuilt; 20 single puddling furnaces, 4 heating furnaces, 126 nail machines, and 2 trains of rolls; product, nails; annual capacity, 200,000 kegs." (Italics ours.)

Thus the *Reporter* not only ignores the rebuilding of these works in 1884, but also makes the blunder of denying that they are nail works. The only mistake that we made in these two cases was in putting the name of the latter "Norton Nail Works," instead of "Norton Iron Works," insignificant as it is, as they are really nail works.

The mistakes made by the *Reporter*, in its efforts to correct our work, are only samples of what was done by the one or two other papers. For instance: We gave in our list, under Chattanooga, Tenn., Gow & Warrington, planing mill; Gum Log Mining Co., mining; Morrison & Woodward, sash and door factory; Willingham & Co., planing mill; Lookout Ice Company, ice factory. A Chattanooga paper denied the correctness of these, and of Gow & Warrington, said: "No such planing-mill firm as the above ever existed here;" of the Gum Log Mining Co. it said: "Never heard of such a concern in or about Chattanooga;" of Morrison & Woodward: "This firm has been located since 1881; works were destroyed by fire and new building was erected and equipped; and of Willingham & Co., it said, "Located at Columbus, Ga., are manifesting some interest in Chattanooga, and contemplate the removal of their sash, door and blind factory to Chattanooga;" and of the Lookout Ice Co., it said: "This refers to the Chattanooga Ice Factory, an old concern." In reply to these misstatements we have only to say that the Chattanooga *Daily Times*, a few weeks ago, in publishing a list of the new enterprises started in that city in 1884, under "Planing Mills" had Gow & Warrington, even giving the cost of their mill. An advertisement from Garnett Andrews, president of the Gum Log Mining Co., calling for a special meeting of the stockholders, appeared in the same paper February 8, 1885; so evidently there must be such a company there. Willingham & Co. are now building a large three-story fac-

tory in Chattanooga, as any one can find out by enquiry; and Morrison & Woodward, as our would-be critic admits, did rebuild their mill in 1884; and this, of course, came under our list, as that included such as "were rebuilt after being destroyed by fire;" while the Lookout Ice Company, of which Mr. Samuel Blair is president, are now building an ice factory at a reported cost of about \$35,000.—We regret the necessity for giving so much space to the correction of our critics.

If fault was to be found, it should have been that the statistics, instead of being exaggerated, were really too small. We have had assurances from many sections of the South that in the aggregate amount of capital invested, we fell short of the truth, due to the failure to report the hundreds of small saw mills, grist mills and other manufacturing establishments such as we considered too small, individually, to be enumerated. Among the letters received bearing on this point is the following from Mr. C. M. Fouche, treasurer of the Knoxville Foundry & Machine Co., Knoxville, Tenn., a large concern which does a heavy business in supplying machinery to mills, &c.:

Editor Manufacturers' Record:

Your list of industrial enterprises organized and built in this section during the year 1884 was correct, as far as it went, but certainly did not contain the names and location, value of plant, &c., of a large number of mills and manufactories of limited capacity which were erected during last year. I know of a large number of saw and grist mills in particular in this immediate vicinity built during 1884, the aggregate value of which would, perhaps, fully equal that of the list published by you of new enterprises in this section. This section of country, with its fine timber and limitless water-power, is peculiarly adapted for mills and manufactories, and within the past few years there have been saw, grist and woolen mills erected upon almost every little stream that furnishes enough power to run it, and at very short distances from each other. There is no doubt in my mind that the small plants in East Tennessee (I mean those that are not known outside of their own immediate locality,) make a larger product and cost more money than the larger and more important ones in our towns and cities.

Yours truly, C. M. FOUCHE, Treas.

And yet, notwithstanding these facts, which we had already stated, there are some people who accuse us of overstating the industrial progress of the South. Verily, they know very little about what they are saying.

A SCHOONER has been chartered to load pig iron at Savannah for New York or New Haven. While large shipments of iron have been made from Savannah by steam for some time, this is the first cargo by sail vessel.

IN the BALTIMORE MANUFACTURERS' RECORD, of this week, we find the following letter written to the editor of that earnest friend and champion of Southern enterprise.—*Lynchburg Virginian*.

THE MANUFACTURERS' RECORD is one of the ablest and most earnest workers for the development of the industries of the South.—*New River Bulletin*, New River, Va.

Increase in Production of Corn and Oats at the South.

In a late issue of the MANUFACTURERS' RECORD we gave some very interesting figures, compiled from the reports of the United States Agricultural Department, showing the growth of the live-stock interests of the South since 1875. The facts and figures given then demonstrated that the South has made a great advance during the last ten years in the production of its own foodstuffs. With a view to still further emphasizing this, we give this week a few figures showing the increase in the production of corn and oats in the Southern States between 1875 and 1884. The yield of corn in the South in these two years compares as follows:

	1875. Bushels.	1884. Bushels.	Increase. Bushels.
Maryland.....	14,209,000	15,237,000	1,027,000
Virginia.....	21,333,000	29,480,000	8,147,000
North Carolina..	22,275,000	31,499,000	9,224,000
South Carolina..	9,240,000	13,320,000	4,080,000
Georgia.....	20,150,000	30,925,000	10,825,000
Florida.....	2,150,000	3,837,000	1,687,000
Alabama.....	24,500,000	30,107,000	5,607,000
Mississippi.....	23,220,000	25,510,000	2,290,000
Louisiana.....	7,920,000	11,007,000	3,087,000
Texas.....	31,000,000	60,200,000	29,200,000
Arkansas.....	10,448,000	32,465,000	22,017,000
Tennessee.....	58,000,000	65,723,000	7,723,000
West Virginia....	10,560,000	11,900,000	1,340,000
Kentucky.....	60,200,000	71,880,000	11,680,000
Total.....	324,146,000	433,270,000	109,124,000

The gain in the production of corn at the South from 324,146,000 bushels in 1875 to 433,270,000 bushels in 1884, being an increase in nine years of over 109,000,000 bushels, shows that the South is making good progress in this line. This increase is particularly gratifying when compared with the rate of increase in the balance of the country; for so much has been written of the enormous increase in grain production at the West since 1875, that any one might naturally think that the South would make a poor show in such a comparison. In 1875 the production of corn in the United States outside of the South was 996,923,000 bushels, and in 1884 it was 1,362,258,432 bushels—a gain of 36.6 per cent.; while in 1875 the South produced 324,146,000 bushels, and in 1884 433,270,000 bushels—a gain of 33.6 per cent. It will doubtless surprise many that, according to the official statistics of the United States Agricultural Department, the percentage of increase in the yield of corn at the South between 1875 and 1884 is so nearly equal to the rate of increase in the rest of the country.

In the raising of oats the South has also made surprising progress of late years, and as they form so important an article in the feed of live stock, it is interesting to note the increase. The yield for 1875 and 1884 compares as follows:

	1875. Bushels.	1884. Bushels.	Increase. Bushels.
Maryland.....	3,050,000	1,080,000	*1,070,000
Virginia.....	5,500,000	6,418,000	918,000
North Carolina..	3,250,000	4,622,000	1,372,000
South Carolina..	858,000	3,545,000	2,687,000
Georgia.....	4,100,000	6,270,000	2,170,000
Florida.....	123,000	494,000	371,000
Alabama.....	840,000	5,015,000	4,175,000
Mississippi.....	800,000	3,218,000	2,418,000
Louisiana.....	31,500	404,000	372,500
Texas.....	1,610,000	10,527,000	8,917,000
Arkansas.....	940,000	3,542,000	2,602,000
Tennessee.....	4,820,000	7,680,000	2,860,000
West Virginia....	2,100,000	2,212,000	112,000
Kentucky.....	6,200,000	7,865,000	1,665,000
Total.....	34,222,500	63,622,000	29,399,500

*Decrease.

Comparing this remarkable increase in the production of oats with the in-

crease in the rest of the country, we find that from 1875 to 1884 the South made a gain in her oat crop of 85 per cent., while the gain for the rest of the country was only 62 per cent.

These most interesting facts are well worthy of thoughtful consideration. They demonstrate that in agriculture as well as in industrial matters the South is making not simply good progress, but remarkable progress that is indeed surprising, even when compared with the growth of agricultural interests in the West. What the South has accomplished in this direction is but a harbinger of the future. The agricultural wealth of the Southern States ten years hence will attract as much attention as her mineral and timber wealth and her industrial progress are now doing. The agricultural wealth of the South, under the better system of farming now being adopted, and with diversified crops, will be a revelation to the world in the near future.

A Wise Movement.

The executive committee of the State Agricultural Society of Virginia has issued a call for a Farmers' Industrial Convention to be held in Richmond, April 15, to consider the material interests of the State and discuss the best ways of building up the agricultural and industrial affairs of Virginia. In the address issued "To the People of Virginia" by this committee, attention is very forcibly called to the heavy migration of Virginians to other States, and then it is asked: "Is it not evident from this showing that something is wrong in the conduct of our affairs? Can we afford to sit still and allow the tide to drift longer in this direction?"

Virginia cannot afford to see her people, and especially so many of her young men, leaving for other States, and very wisely it has been determined to try and call a halt. After pointing out that the cause of this condition of affairs is due to the preponderance of agriculture over other interests, the address says:

"Diversify our industries. If we would keep our sons and daughters at home, recuperate our fortunes and restore fertility to our exhausted fields, we must open the mines which have lain dormant for generations. We must utilize our water power, establish manufactures, build up our cities and make home markets for our products. With such a diversity of employment the principle of the division of labor can have full sway, and provision can be made for every variety of taste, talent and physical development. Each individual can be put in that position for which he is qualified by education and natural endowments. Then we shall have no non-producing consumers, and no one will be forced to emigrate that he may find congenial and profitable employment. Industries like individuals thrive in communities. There is an interdependence of one upon the other. Each one is a consumer of the products of every other, and hence the greater the number of industries in any community the more independent and prosperous its citizens."

We think it quite probable that this convention, composed of the most progressive men in the State,

farmers, merchants and manufacturers, will exert a great influence for good upon the progress of the Old Dominion, and it would be well if similar conventions could be held in every Southern State. Now is the time when the people of the South must improve their opportunities, and develop their magnificent resources, without waiting for strangers to come in and do this work.

South Carolina's Phosphate Rock—Matters of Interest from the Exposition.

[From our Regular Correspondent.]

NEW ORLEANS, LA., March 12, 1885.

The enormous pile of phosphate rock in the South Carolina exhibit is a very prominent feature in the Government Building. It is unique and very attractive. It is of great importance scientifically, commercially and agriculturally. The origin of the wonderful deposits represented by this pyramid has been the study of the scientists, and while they were endeavoring to settle this question, the business men of the country and the farmers were learning its practical value. The utilization of the South Carolina Phosphate Rock has done more to advance the agricultural interests of the South in late years than all other causes combined. In 1870 the first fertilizer works for the manufacture of this rock were erected. To-day there are eleven companies engaged in the work, and manufacturing about one hundred and sixty thousand tons of commercial fertilizers annually. There are twenty-five companies mining the rock, and there is invested in mining and manufacturing over \$6,000,000, giving employment to more than three thousand hands. Vessels from Italian and other ports come directly to the phosphate regions of South Carolina with sulphur and copper pyrites, from which the sulphuric acid used in the manufacture of the rock is made, and take back with them cargoes of the rock for foreign use. About one hundred and fifty-five thousand tons of this rock is annually exported. The State's exhibit of phosphates here promises to still further develop this immense industry. The Japanese Commissioner at the Exposition has been in consultation with the South Carolina representatives, with a view to establishing a line of steamers between the Japanese ports and those of South Carolina, to bring over dried fish scrap, used for ammoniating the fertilizers, and carrying back in exchange the phosphate rock. If this scheme is found to be practicable, it will open a new and extensive market for the phosphates, and, perhaps, enable the Carolina companies to obtain a very essential ingredient at a lower price than they have heretofore paid. Of course, a reduction in price would be followed by increased consumption, and the business would be enlarged in all its branches. It would, doubtless, also result in the exchange of German Kainit, used to supply potash, for the rock, and this to the establishment of a line of vessels between Germany and South Carolina, that would soon lead to an influx into the South of the best class of German farmers and mechanics, so much needed in the whole South. The State receives \$1 per ton on all rock mined in the navigable streams, and last year this royalty amounted to \$153,000, or about one-third of the State taxes. The land deposits are owned by individuals, and are leased to miners.

The value of the crude phosphates mined last year was \$2,500,000, or about ten times the value of the gold and silver production of all the Southern States. It is estimated that 635,000 tons of commercial fertilizers are consumed annually in the United States, and of this amount the South uses 460,000 tons. Nearly all of these manures are made from the Carolina rock. The demand is increasing every year, and the companies

had on the first of March disposed of the entire stock manufactured for this season. No systematic survey of the territory where these deposits occur has ever been made, but the supply seems inexhaustible.

In company with a practical machinist of large experience, I visited Machinery Hall a few days since. This gentleman assured me that while the exhibit in the various departments is extensive and interesting, there is really very little that is new. The most recent inventions, and these perhaps attracting the most attention, are the Jute and Ramie machines, the new cotton gin, and rice mills. These certainly have greater interest for the Southerners at the Exposition than those of any other kind. To one unfamiliar with machinery and whose opinion is based upon what is seen, and not what is unseen, who sees only the best parts and none of the defects, the machines for decorticating fibrous plants appear to be perfect. There are five of them on exhibition, and, if they work successfully, it means millions of dollars for the South. There are thousands of acres in all the Southern States that will produce jute and ramie, and the profits in these crops are said to be enormous. The Southern farmers are fascinated by the idea of finding a money crop more profitable than cotton, and they are anxiously awaiting the verdict to be pronounced upon the machines now on exhibition.

The Mason Cotton Gin, said to be the only improvement ever made upon the old saw gin, was invented by Mr. C. T. Mason, the inventor of the Cotton Harvester. He claims that it will do more work in a given time, produce finer samples, runs with less power, and never injures the operator. A committee appointed by the Exposition management to examine the gin, has submitted a report and endorse the inventors' claims. The company owning the patents does not propose, at present, to manufacture the gins, but will sell the right to their use to the manufacturers of other gins.

The exhibit of wood-working machinery is very complete. In this department there is a mortising machine that does the work of a man, a mallet, an auger and chisel. Another machine will tongue and groove three boards with one movement. The number and variety of these machines is almost endless.

The "New Process" roller mills for flour are being carefully studied and will be more generally employed hereafter, as many mill men from remote sections have had here their first opportunity to examine these improvements.

The company owning the Mason Cotton Harvester decided not to exhibit it at the Exposition. The reasons given for this action are that there were some improvements it was desirable to make before beginning the manufacture of the harvester, and as they were not ready for sale, the company could see no benefit to be derived from placing it on exhibition.

The following railroads have exhibits here: East Tennessee, Virginia & Georgia, Queen & Crescent, Georgia Pacific, Missouri Pacific, Richmond & Danville, Morgan Line, Louisville & Nashville, Chesapeake & Ohio and Baltimore & Ohio. These exhibits embrace specimens of the various products of the country along the lines of the different roads, and they well represent the vast and varied resources of the sections traversed by these great roads. L. A. R.

THE BALTIMORE MANUFACTURERS' RECORD is doing a good work in directing attention to the boundless resources of the Southern States. In every issue of that enterprising journal we find good words for Virginia. No State in the Union offers more varied attractions to the capitalist than this State. Coal, iron and a great variety of other minerals are found here, valuable timber is plentiful in our mountains, broad acres of rich grazing land are found within our borders, and if the proper energy is displayed the wealth of the State will multiply rapidly during the next five years.—Richmond, Va., State.

Notes From Dixie.

BY CHAS. H. WELLS

They had a lively debate in the North Carolina legislature the other day on a bill to secure the completion of the Western North Carolina Railroad to Murphy in Cherokee county. The bill proposes to give the road 125 convicts to work on the branch to Murphy until its completion, and to release the railroad company from the \$26,000 already due the State for convict labor expended on the Murphy branch. After a good deal of sharp debate, in which the opponents of the bill appeared to have the advantage in the argument, the bill finally passed (43 ayes, 43 noes,) by the casting vote of the speaker.

Now that it has been determined to finish the road, the real estate speculators who buy land along the line surveyed, will reap a rich harvest. This Western country is being settled more rapidly than almost any other part of the South. There are all kinds of mineral lands, marbles and various sorts of timber along the proposed route, and the first man in the field, with cash and judgement, is bound to make some money. A marble quarryman from Memphis, Tenn., says: "The finest marbles I have ever seen are to be found in Western North Carolina, and there are no less than six companies now organizing to develop this industry." Major T. H. Bomar, of Morganton, N. C., can furnish information as to marble lands better than almost any other man in the State, as he is thoroughly posted on the subject.

The new furniture factory of Elliott & Marsh, in Charlotte, has commenced operation and is now running on full time. They will have a large lot of newly made furniture ready for shipment within a few days, and already have a number of orders to fill. A reporter visited their factory the other day and found all the machinery going at full blast and the factory filled with pieces of furniture ready to be put together. The building is three stories high, and its equipment of machinery is thorough. The proprietors expect to do a large business.

The Fayetteville papers say that the legislature has authorized the Board of Alderman of the city of Wilmington, by and with the consent of the Board of Audit and Finance, to either subscribe for the stock of the C. F. & Y. V. Railway, or to purchase the first mortgage bonds of the company to the amount of \$250,000. This subscription by Wilmington is to be expended in extending the railroad from Fayetteville, to Wilmington. When the Cape Fear and Yadkin Valley road gets into Wilmington and finishes up its western line, it will be about almost an air line from the seaboard to Cincinnati. Take a ruler and lay it on the map, draw a mark from Wilmington to Cincinnati, and you have almost the exact course of this road. Mr. Julius A. Gray, of Greensboro, can give some valuable hints to men who desire to invest along this new short line.

The Shelby, N. C., *Aurora* says: "Cleveland county has made rapid advances in the discovery of her mica wealth, and soon will be the best mica county in the South. Cleveland mica is on the surface, can be worked without much expense, and the output is profitable. Several thousand dollars have been realized from mica sales. This mineral is found in different portions from King's Mountain to Ben's Knob. Mr. Bumgarner has a splendid mica deposit, and is making money every month on his surface mines. Mica of large size and fine quality has been found here, and with more energy, push and capital, Cleveland mica will be sought by stove dealers throughout the United States,

Some half dozen people have written to ask for a list of people with desirable properties to sell. I quote from a recent article of mine in the *Charleston News and Courier*: "Major T. W. Wilson, of Morganton, N. C., has 100,000 acres for sale; Dr. Garrett, King's Mountain, N. C., 6,200 acres; Zimmerman and Johns, Westminster, S. C., 6,000 acres; J. Watkins Lee, Spartanburg, 2,400 acres; Mike Brown, Barnwell, 1,500 acres; Col. E. B. C. Cash, Cash's Depot, S. C., 5,000 acres; William Choice, Spartanburg, 1,000 acres, that will average 8,000 feet of hickory and pine to the acre; St. John Cox, Greenville, 15,000 acres; Dr. J. H. Maxwell, Greenville, 1,500 acres; J. C. Allen, Allendale, S. C., 3,000 acres; J. H. Lorick, Columbia, 500 acres; J. K. McIver, Darlington, 2,000 acres; Col. A. Fludd, Vance's Ferry, S. C., 10,000 acres; W. J. Duffie, Columbia, 5,500 acres; D. F. Arthur, Macedonia, S. C., 400 acres; C. M. Given, St. George's, S. C., 1,500 acres; C. L. Williamson, Providence, S. C., 2,000 acres; L. B. O'Bryan, Allendale, S. C., 5,000 acres; Samuel G. Stoney, Charleston, 60,000 acres; M. Clarke, Davis's Bridge, S. C., 3,000 acres; L. M. Berry, Mile Creek, S. C., 500 acres; R. A. Ellis, Allendale, 1,700 acres; J. C. Fort, Gilbert Hollow, S. C., 1,400 acres.

Col. A. B. Andrews, of Raleigh, N. C., has 10,000 acres for sale; Gen. J. B. Nettles, Darlington, 2,500 acres; W. F. Parker, Westminster, S. C., 4,000 acres; H. B. Cooke, Gallivant's Ferry, S. C., 2,000 acres; John Witherspoon, Society Hill, S. C., 3,000 acres; J. J. McCall, Darlington, 1,000 acres; S. J. Simpson, Spartanburg, 500 acres; J. M. and G. A. Crofut, Beaufort, S. C., 40,000 acres; J. M. Crosswell, Fort Motte, S. C., 1,000 acres; A. A. Conner, Orangeburg, 2,000 acres; W. J. Snyder, Elloree, S. C., 500 acres; W. W. Rhame, Strawberry, S. C., 500 acres; A. F. Browning, Orangeburg, 500 acres; E. G. Shuler, Holly Hill, S. C., 1,000 acres; J. S. McCall, Society Hill, 3,000 acres; Allen Maulden, Easley's, S. C., 1,000 acres; C. J. Cowles, Charlotte, 15,000 acres; W. B. Gwynn, Asheville, 20,000 acres; Natt. Atkinson, Asheville, 20,000 acres; M. O. Shevill, Newton, N. C., 5,000 acres; R. A. Bost, Newton, 5,000 acres; M. L. McCorkle, Newton, 5,000 acres; Geo. M. Setzer, Newton, 5,000 acres; A. A. Shuford, Hickory, N. C., 3,000 acres. The total number of acres included in this list is 376,000.

A great deal of this land is in the Piedmont region; several tracts are in Western North Carolina, and a few lots are in lower South Carolina. In 1860 some of the level lands in the neighborhood of the South Carolina Railway, (Col. J. B. Peck, of Charleston, manager,) sold for \$3 an acre. To-day these same lands will bring \$40 an acre under the auctioneer's hammer, with plenty of purchasers at each sale. Under high culture 30 bushels of wheat per acre have been raised in this soil, while one bale of cotton to the acre is not considered anything extraordinary. The Sand Hills region, just beyond Augusta, Ga., and extending down through Aiken, S. C., offers inducements to settlers. The climate is dry, tonic sunny and stimulating, and entirely free from malaria. The area of the Sand Hills region is placed at 2,441 square miles, with a population of 28,600, of which 59 per cent. is colored.

A gentleman from Baltimore, reading in the *RECORD* of March 7th, the statistics of forestry in the United States, writes to ask "what on earth is done with all the wood?" It might be said that the largest part of it is used for building material, fencing and manufactures. By the census we find the value of wood used annually in cooperage was \$33,714,770. It is known that several million dollar's worth is annually consumed

in the manufacture of baskets. The chief of the forestry division of the Agricultural Bureau recites that 2,909,542 cords of bark were used in tanning in 1880, at an average cost of \$6 a cord, which would bring the aggregate value of bark up to \$17,457,252. This does not include the value of trees cut for bark and left to decay, and these include much the larger part of the timber devoted to this purpose. It will be observed that the bark used annually, of which we hear little mention, amounts to more in value than the rye crop, nearly as much as the whole product of iron ore, and more than half the gold taken from our mines. Even the matches we consume require wood to the value annually of \$3,298,562. Besides this the railroads use about \$3,000,000 of wood for fuel and \$2,000,000 for ties each year.

Monsieur Boucher, of France, is visiting Greenville, S. C., with a view to establishing vineyards there, as he thinks it is a good wine producing country. He finds the price of lands very high in Greenville county and the people of Catawba county, N. C., will hold out inducements for him to come there. The Garrett and the Hunt wines of North Carolina have established the fact that the tar-heel State is a fine wine producing country, and the vineyards at Kittrell, N. C., are very prosperous.

Law Department.

Edited by B. HOWARD HAMAN, Attorney at Law, Baltimore, Md.

It is the province of this Department to reply to enquiries that may be made by our patrons respecting the legal aspects of any matter that may arise in their business. Any questions as to doubtful points of law will be answered without charge in this column. All questions submitted must be accompanied by the name and address of the sender, not however, for publication. Letters should be addressed, Editor Law Department, MANUFACTURERS' RECORD.

BALTIMORE, March 13, 1885.

Editor Law Department,

Manufacturers' Record:

Dear Sir—If a special partner actually puts into a concern in cash the entire amount of his special capital, and that on the day when the partnership is formed, is not this enough to save him from any liability for the firm's debts, beyond his special capital? In the case I speak of there was no certificates or other paper recorded at the time the business was begun.

Reply—"No such partnership (limited partnership) shall be deemed to have been formed until a certificate shall have been made, acknowledged, filed and recorded." Revised code, article xxxiii, section 5.

It follows, as a matter of course, from the language of this section of the code, that without the formalities named therein, all the partners would be considered general partners.

PHILADELPHIA, PA., March 11, 1885.

Dear Sir—Will you be kind enough to answer the following question for me, in accordance with the law of your State? I wrote some time ago to a firm in your city who were acquaintances of mine, asking for the standing of a person in Baltimore, to whom I wished to sell some goods; I received a reply saying the party stood well. The letter was written by one of the firm. Upon the information so obtained I sold, and lost. I find that the standing of the man to whom I sold my goods was very bad at the time my correspondent rated him good, and further, that the man who wrote me the letter rating him well, was at that time a creditor of the same party, and knew him to be in a bad fix. What can I do in this matter? Can I sue the party who wrote me the false statement? And, if so, can I not also hold his firm liable for the statement of the partner? Your reply will greatly oblige me.

Reply—You can hold the party who made the false statements for the whole amount of your loss, but you have no case against the partner of the man who deceived you unless he had actual knowledge of the fraud.

BALTIMORE, March 13, 1885.

Dear Sir—Will you please inform me if you can attach a man's wages in Maryland for a claim of less than one hundred dollars?

Reply—Yes; but in laying the attachment for sums less than one hundred dollars the creditor must be sure that the debtor has at

that time funds to his credit in the hands of his employer. Out of these funds the debtor may claim a special exemption of one hundred dollars, so that the process of attachment for debts of the size you name is rarely used, and is of slight assistance to the creditor. We may add that the law is very different in this State as to claims higher than one hundred dollars. In such cases the attachment hangs like a drag-net and catches all moneys due the employee from the time the writ is laid, up to the time of trial, thus compelling the debtor to settle or leave his position.

New Ice Machines.

COLUMBUS, GA., March 12, 1885.

Editor Manufacturers' Record:

We have during the past ten days closed the following contracts: One 10-ton absorption ice machine to the Montgomery Ice Manufacturing Co., Montgomery, Ala. This company has been operating an ether ice machine for the past twelve years, and it was built at the same iron works. One 10-ton absorption ice machine to Wm. E. Worth & Co., of Wilmington, N. C., who will also add cold storage in connection. One 10-ton machine to the Jacksonville Ice and Cold Storage Co., Jacksonville, Fla.

H. D. STRATTON & Co.

New Industries.

COLUMBUS, MISS., March 12, 1885.

Editor Manufacturers' Record:

The Tombigby Woodenware Factory Co., reported suspended last week, will resume operations next week. At Aberdeen, Miss., an oil mill and wagon factory are soon to be established. The brick factory and tin stove factory in that place are both doing well. The weather looks favorable for crops this year.

W. H. WORTHINGTON.

New Flour Mill.

LITTLE CYPRESS, KY., March 9, 1885.

Editor Manufacturers' Record:

I contemplate putting up a chair factory, and if I do it will be erected about May or June. Mr. C. Dishman is going to put up a fine flour mill at Sharpe, Ky.

M. D. STORY.

We haven't the pleasure of knowing Mr. Goldsmith B. West, of New Orleans, but he evidently knows the MANUFACTURERS' RECORD. We learn from the New Orleans papers that he "read a very able paper" at the Southern Immigration Convention, held in that city last week. We are glad to know that it was "a very able paper," because it was, so far as reported, very largely from the MANUFACTURERS' RECORD, and that, too, without a word of credit.

A Snuff Factory.

PARIS, TENN., March 12, 1885.

A snuff factory will be started in this city at an early day by A. B. Mitchum. A creamery has also been established here under the style of "The Cold Spring Creamery."

JNO. R. RISON.

DURHAM, N. C., March 11, 1885.

Editor Manufacturers' Record:

We are now building a fertilizer factory 50x150 feet, two stories main building. It will have sheds 40x100 feet. Located immediately on railroad track. Fitted up with latest improved machinery.

DURHAM FERTILIZER CO.

DAYTON, TENN., March 13, 1885.

Editor Manufacturers' Record:

Francis, Stuct & Kepner are building a flour mill here.

CONSTRUCTION DEPARTMENT.

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

ALABAMA.

The Mobile Electric Light Co., Mobile, Ala., expect to increase their capital from \$15,000 to \$60,000.

The Western Lumber Co., a new organization are building a saw mill near Brewton, Ala.

The Montgomery Ice Manufacturing Co., Montgomery, Ala., have ordered an additional ice machine.

James O. Dickens, Mobile, Ala., is preparing to establish a saddle and harness factory to employ about 50 hands. Will probably incorporate as the Mobile Saddlery Co.

The Birmingham Water Works Co., (J. W. Sloss, president,) Birmingham, Ala., the organization of which was previously reported, are preparing to build their works.

ARKANSAS.

Thomas Ketchum, Fort Smith, Ark., previously reported as intending to start foundry and machine shop, desires to purchase considerable machinery.

Bullions, Hunsaker & Co., Ravenden Springs, Ark., intend to develop their gold and silver mines.

FLORIDA.

An appropriation has been made for building water works at Lake City, Fla., previously reported as probable.

A company has been organized to build a railroad from Lady Lake to Homosassa, Fla. Robert Bullock, Ocala, Fla., is president.

A company has been organized in Jacksonville, Fla., as the Jacksonville Refrigerator & Ice Works, to establish ice factory and cold storage warehouse.

Green Lane, Freeport, Fla., will build a saw mill this summer. Mr. Lane is a member of the firm of Green Lane & Co., Freeport, whose saw mill was lately burned, (loss \$10,000.) Mr. Lane will rebuild on his individual account.

Dexter Hunter, Jacksonville, Fla., has nearly completed the extensive enlargement of his saw mill.

The West Florida Investment & Improvement Co. has been organized at Pensacola, Fla., with H. R. Newman, president; W. A. S. Wheeler, treasurer, and Geo. F. Byrde, secretary. Capital stock \$1,500,000; will build a railroad.

GEORGIA.

The foundry company, previously reported as organized in Fort Valley, Ga., are pushing work on their buildings. They will also erect machine shop 50x80,—Gulledge & Austin being the contractors.

Wm. Crovatt, G. B. Mabry and others, Brunswick, Ga., have organized the Marine Railway & Dry Dock Co.; capital \$20,000, to construct and operate marine railway, ship yard, &c.

R. W. Bagby, Covington, Ga., is building a distillery.

The Central Railroad Co. will spend probably about \$150,000 in Savannah, Ga., in building new warehouses and laying track along the river front.

E. O. Thompson & Co., Thomasville, Ga., reported in our last issue as enlarging saw mill, are enlarging their wood-working and variety shop, and not saw mill.

D. G. Purse, Savannah, Ga., contemplates building a hotel at Tybee Island, Ga.

D. C. Bacon, W. B. Stillwell, H. P. Smart and Martin F. Amorou, have organized the Atlanta Lumber Co., Atlanta, Ga., paid up capital \$25,000, to operate planing mills, saw mills, buy and sell timber land, &c.

The Brunswick Gas & Electric Light Co., Brunswick, Ga., previously reported as organized, will shortly erect their works at a cost of about \$10,000.

The grist mill, previously reported as to be built in Athens, Ga., will be put up by a stock company, Thos. Bailey, superintendent.

J. M. Scott, West Point, Ga., will probably establish a plow factory shortly.

Webb & Worley, Hickory Flat, Ga., are about to erect their saw mill previously reported as to be started.

KENTUCKY.

Pace & Depp, Cave City, Ky., will build a 75-barrel flour mill; have contracted for part of machinery.

The Ohio Smelting & Mining Co. has been incorporated in Covington, Ky., by John Meek, L. N. Crigler, John B. Ewan, N. B. Black and Milton Slater; capital \$75,000.

The Eugene Mills Co., Hopkinsville, Ky., have changed their flour mill to the roller system.

C. Dishman, Sharpe, Ky., will erect a fine flour mill.

The Louisville Tent & Awning Co., Louisville, Ky., previously reported, has been incorporated with a capital stock of \$50,000 to manufacture tents, &c.

W. S. Gillner, Eminence, Ky., is changing his flour mill to the roller process.

B. R. Morton, city engineer, Newport, Ky., estimates that the contemplated enlargement of the water works of that town, if carried out, will cost \$125,000.

L. P. Ewald, president Ewald Iron Co., (Tennessee Rolling Works, P. O., Lyons county, Ky.) contemplates removing his rolling mill to Paducah, Ky., and spending \$200,000 on new works.

A \$25,000 Masonic hall is to be erected in Aberdeen, Ky.

The incorporators of the Dueber Light Co., previously reported as organized in Newport, Ky., with capital of \$100,000, are Samuel Bigstaff, Joseph Daller and W. A. Moore; object is to manufacture gas and establish electric lights, &c.

Harvey & Mossman, Maysville, Ky., will erect a large roller skating rink.

Pfingst, Doerhoeffer & Co., Louisville, Ky., are building a tobacco factory to cost about \$25,000.

The Wathen Adams & Mason Co. has been incorporated in Louisville, Ky., capital \$20,000, to manufacture wooden and willowware, &c.

J. B. Wilford & Bro., Bowling Green, Ky., are making arrangements to build a large flour mill.

LOUISIANA.

The New Orleans Smelting & Gas Co., New Orleans, previously reported as organized, will ask the privilege of laying gas pipes in New Orleans, erecting combined smelting and gas works on a new principal,

&c. The incorporators of this company are B. F. Smith, Walmsly & Barr, Gilbert Green, W. A. Boffinger, Chris. Mehle, T. Hunton, and others.

R. Baggary, New Iberia, La., has just completed his ice factory.

MARYLAND.

G. R. Henry, J. L. Bryan & John G. Mills, of Cambridge, Md., have been appointed a committee to enquire into cost of machinery, &c., for the proposed glass factory, previously reported.

There are rumors of a new gas company being organized in Baltimore.

Baltimore will build a \$9,000 market house.

Charles Miller, 90 Boston street, Baltimore, contemplates building a fruit and oyster canning factory on the Patapsco river.

A company is being organized in Westminster, Md., to establish a fertilizer factory. Charles B. Roberts, Westminster, can give particulars.

The Chesapeake Manufacturing Co., Baltimore, previously reported as intending to build a tack factory, have commenced work on their building.

The Baltimore Medicine Company, Baltimore, has been organized by David M. Newbold, Jos. B. Norris, Robt. W. Scarlett, Frederick C. Seeman, Newton C. Search; capital \$50,000.

E. D. Wells, Francis H. Orendorff, Edw. Lynch, J. F. Rinker and Israel Zieber, Westminster, Md., are organizing a company, with capital of \$100,000, to manufacture cigars.

MISSISSIPPI.

C. A. McKinnon, Aberdeen, Miss., and others will build a cotton seed oil mill; have purchased the ground.

The Corona Coal Co., the charter of which was previously reported, is the old "Alabama & Mississippi Coal Co.," chartered under the former name at the late session of the general assembly in Alabama. They propose to do a general mining, manufacturing and transportation business. The capital stock is \$500,000, with privilege of increasing. Office is at Columbus, Miss., Chas. H. Cocke being secretary.

The Louisville, New Orleans & Texas Railroad Co., J. M. Edwards, general manager, (office New York city,) as previously reported, intend to build large machine shops shortly, and are still negotiating for the ground needed in Vicksburg, Miss., where the shops will probably be located.

S. Spenger, Vicksburg, Miss., is enlarging his sash and blind factory.

A wagon factory is to be established shortly at Aberdeen, Miss.

F. E. Heiway, Hazlehurst, Miss., will probably put up a gin, and also purchase spoke lathe this summer.

The Barataria Canning Co., Biloxi, Miss., will erect a fruit and oyster canning factory, 50x150 feet.

NORTH CAROLINA.

Efforts are being made to secure the money to build the Mt. Holly & Denver, N. C., Railroad. The cost will probably be about \$100,000. W. T. Jordan, Mountain Island, N. C., can give particulars.

Peacock & Herring, Smithfield, have purchased a brick yard at Newberne, N. C., and will put it in operation.

J. Straus & Co., Goldsboro, N. C., will put new 75 horse-power engine in their rice and planing mills shortly, and also make extensive improvements.

The S. H. Gray Manufacturing Co., Newberne, N. C., the organization of which was previously reported, have commenced on the foundation of a wood-pulp mill, 50x75 feet, which they will build; capital \$50,000.

A. W. Long, Maiden, N. C., will not add sash and door factory to his mill, as reported, but will put up a gin and press, and will want machinery.

SOUTH CAROLINA.

M. B. Randall, it is reported, will establish an artificial stone factory in Orangeburg, S. C.

A \$10,000 Methodist church is to be built in Spartanburg, S. C., the building committee being W. K. Blake, James McMakin and others.

Grant Bros. & Dunn, proprietors of Cotton Compress, Columbia, S. C., will build a second compress in the same place this summer, and also enlarge their warehouse.

Oliver Brothers, proprietors of the Charlotte Oil Mill, Charlotte, N. C., have decided to erect an extensive cotton-seed oil mill at Columbia, S. C., estimated cost being put at \$75,000.

Emerson McDuffie, Marion, S. C., is building a small foundry to his machine shop and putting in new machinery.

TENNESSEE.

A company has been chartered to build a railroad from Pensacola, Fla., to Memphis, Tenn.

Leslie Warner, L. S. Goodrich, E. A. Bostrom and others, Nashville, Tenn., have organized the Bostrom Automatic Level Co.

C. B. Leavitt, W. R. Crawford and others, Memphis, Tenn., propose to organize a company to manufacture a new street-car motor.

The flour mill reported as to be built in Dyersburg, Tenn., will be put up by a company of which H. Parks, Jr., is president.

The Tennessee Brewing Co., mentioned last week, is the name of the company lately organized in Memphis, Tenn., to purchase, overhaul and put in operation the old Memphis brewery; capital is \$100,000.

W. D. Fox, Dayton, Tenn., will probably enlarge his planing mill.

Fred H. Olin, of Michigan, contemplates the erection of a planing mill at Knoxville, Tenn.

Garnett Andrews, P. R. Albert and others, of Chattanooga, Tenn., have organized the Grand Bend Real Estate Co., which will spend about \$200,000 for land near Chattanooga on which to build a town; will lay out streets, &c.

M. T. Lewman, Greencastle, Ind., is in the South with a view of selecting a location for a planing mill. Will possibly locate at Chattanooga, Tenn.

Cowan & VanHorn, Maryville, Tenn., will build machine shops.

The American Button Co., Maryville, Tenn., will soon put in new machinery.

Hanna & Thorn, Maryville, Tenn., will enlarge their Anchor Woolen Mills.

R. Kennedy, Isom's Store, Tenn., whose mill was lately burned, (loss \$4,000,) will rebuild grist and saw mill.

Wetzell Bros., of Grand Rapids, Michigan, have purchased through A. A. Hobson, of Bristol, Tenn., 10,000 acres of timber land in Unicoi county, Tenn. Wetzell Bros. contemplate erecting a large saw mill on their property.

Francis, Stuet & Kepner are the parties building the flour mill at Dayton, Tenn., previously mentioned.

R. S. Henderson and others, Sevierville, Tenn., are trying to organize a company to build the flour mill previously reported as rumored.

C. Denton, Charleston, Tenn., has just commenced opening an iron ore mine.

The P. Byrne Manufacturing Co., lately reported as organized at Nashville, Tenn., (capital stock of \$50,000,) will continue the manufacturing business of P. Byrne, and also add other specialties; will put in some new machinery.

The Franklin Gas Light Co. has been organized at Franklin, Tenn., with Hugh Smith, president, Wm. E. Hill, secretary, and James M. Baugh, superintendent, to build gas works.

M. R. Campbell, Tullahoma, Tenn., whose hub and spoke factory was burned last week, (loss \$22,000, and not as before reported,) will rebuild immediately on a larger scale.

Benj. F. Wilson, of Madison, Wisconsin, is now in Knoxville, Tenn., investigating the advantages of that place for steam-engine works.

The Henderson Coal Co. has been organized at Chattanooga, Tenn., with Wm. Clift as president. Will develop mining property on a large scale.

Wm. Rose expects to build a cooperage factory in Chattanooga, Tenn.

A. B. Mitchum, Paris, Tenn., will shortly establish a snuff factory.

A company is being organized in Chattanooga with capital of \$10,000 by J. T. Bennett, J. M. Morrison, T. Ford and C. E. Stanley, to manufacture fruit evaporators.

The Planing Mill Co. has been organized at Martin, Tenn.

J. M. Brent & Co., of Chicago, will build a \$5,000 creamery at Pulaski, Tenn.

TEXAS.

Kain & Campbell, Dallas, Texas, have contracted with J. A. Johnson to build for them a \$35,000 warehouse.

It is said that the cotton seed oil mill previously reported as talked of in Longview, Texas, will be built shortly.

The Dry Press Brick Co., Gainesville, Texas, is building a cotton compress.

P. H. Layne, Terrell, Texas, is erecting a canning factory.

The Jefferson Lumber Co. has been organized in Jefferson, Texas, by W. L. Whitaker, C. C. Galloway, Ben. Whitaker and J. H. Bemis; capital \$200,000.

Corsicana, Texas, has disposed of \$80,000 of bonds for the purpose of building water works.

San Antonio, Texas, will shortly decide by vote whether or not to build a \$75,000 city hall and jail.

VIRGINIA.

The Petersburg Hat Manufacturing Co. has been organized in Petersburg, Va., to manufacture hats.

A saw mill is to be built in Dublin, Va.

The Kinney Tobacco Co., New York, lately reported as intending to erect a large tobacco factory in Richmond, Va., will probably spend \$75,000 to \$100,000 on the building.

The Moore Memorial Church, Richmond, Va., will rebuild their house, and the Park Place Church, same city, will erect a new church building.

Franklin, Va., will probably build water works.

Norfolk, Va., will spend about \$55,000 to enlarge her water works. W. T. Brooke, city engineer, can give particulars.

Ivan Yonce, Salem, Va., has commenced opening an iron ore mine.

LOCKWOOD, GREENE & CO. MILL ENGINEERS

Office, 65 Westminster St., Providence, R. I.

Carefully prepared plans, specifications and estimates furnished for the construction, equipment and organization of new mills and the revision and improvement of old.

WEST VIRGINIA.

The Benwood Iron Works, of Benwood, W. Va., have completed their new nail mill and now have under construction an extensive Bessemer steel plant.

L. C. Elliott and others, Philippi, W. Va., are developing a lead mine.

BURNED.

Saw mill of Ackenhausen & Nardman, Ellisville, Miss.; loss \$2,000.

Grist mill of J. M. Moore, Marietta, Ga.; loss \$3,000.

New Factory.

VICKSBURG, MISS., March 10, 1885.

Editor Manufacturers' Record:

We are building a sash, door and blind factory, two story, 40x100 feet. We are builders as well as manufacturers, but will give more of our attention to manufacturing in future. We will have our mill ready in two months and will have the handsomest in the city. We shall add new machinery as we go on. Mr. S. Spengler, of our city, is extending his already large sash, door and blind factory. There are in course of erection here new machine shops for the Louisville, New Orleans & Texas Railroad for repairing. CURPHEY & MUNDY.

JACKSON, TENN., March 12, 1885.

Editor Manufacturers' Record:

We have changed name from West Tennessee Manufacturing Co to Jackson Milling & Manufacturing Co. Placed order with the Richmond City Mill Works for complete roller flour mill outfit, 80-barrel capacity. Building is complete, and mill will be ready for work in May. Will receive the machinery in few days. JACKSON MILL & MFG. CO.

GADSDEN, ALA., March 11, 1885.

Editor Manufacturers' Record:

The Kyle Lumber Co. are successors to R. B. Kyle & Co. The Kyle Lumber Co. was incorporated 1st January, 1885. No new mills will be erected, as the present ones have only recently been built. Paid-up capital \$50,000. R. B. Kyle, president; J. M. Elliott, Jr., general manager.

J. S. KYLE, Sec'y and Treas.

New Machinery.

NEWNAN, GA., March 12, 1885.

Editor Manufacturers' Record:

The R. D. Cole Manufacturing Co. of this place will add some new tools to their plant. Among other, will be an 8-foot boring and turning mill. T. B. COLE.

LANCASTER, TEXAS, March 10, 1885.

Editor Manufacturers' Record:

We are now preparing to build a full roller flouring mill, capacity 65 barrels a day, and expect to be in operation some time in June next. Our machinery will be from Nurdyke & Marmon Co., Indianapolis, Ind. W. R. MOFFETT & SON.

A Canning Factory.

BILOXI, MISS., March 9, 1885.

Editor Manufacturers' Record:

We will start a factory at Point Cadet, (the place is one mile from the town of Biloxi, Miss.) and will can oysters, shrimp, figs, etc.; also ship raw oysters. The place will be 150x50 feet. BARATARIA CANNING CO.

HAZELHURST, MISS., March 12, 1885.

Editor Manufacturers' Record:

I have already steam power and some machinery. I intend this year, if possible, to add a spoke lathe to my other machinery, and as I have plenty of power I think of erecting a gin house at suitable distance and put on about an eighty saw gin, so as to have it ready by first September next.

F. E. HEIWAY.

A Big Cotton-Seed Oil Mill.

CHARLOTTE, N. C., March 14, 1885.

Editor Manufacturers' Record:

We have bought a splendid site in Columbia, S. C., for a cotton-seed oil mill and expect to commence building within a month. Will have the very latest and best machinery to be had, and one of the firm is now on an extended trip through the oil section to inspect the different makes of machinery. The mill will have a daily capacity of 75 tons of seed per day.

CHARLOTTE OIL CO.

FRANKLIN, KY., March 13, 1885.

Editor Manufacturers' Record:

Mr. J. S. Hunt is secretary of a company that proposes to build a car for the transportation of human beings as freight. He proposes that it be used for emigrants that may want to travel in company, and is to be arranged so as to give them facilities for cooking, &c.,—so they need not be any expense on the road at all.

BRISTOL, TENN., March 14, 1885.

Editor Manufacturers' Record:

Messrs. Wetzell Bros., of Grand Rapids, Mich., are here now looking over their purchase. As soon as they fix the point for their mill I will write you fully.

A. A. HOBSON.

Machine Shop—Machinery Wanted.

FORT SMITH, ARK., March 17, 1885.

Editor Manufacturers' Record:

I intend to build a machine shop, and will want 2 lathes, one about 30 inch swing, 14 foot between centers, one 14 inch swing, 6 foot between centers, 1 drill press, 1 bolt machine, 1 shaper, as soon as I can build. Want prices for new or second-hand machinery. THOS. KETCHUM.

CAVE CITY, KY., March 10, 1885.

Editor Manufacturers' Record:

We are going to build a flouring mill.

PACE & DEPP.

Machinery Wanted.

MAIDEN, N. C.

Editor Manufacturers' Record:

I will put up a gin this fall, and want gin, press and engine. A. W. LONG.

A \$50,000 Manufacturing Co.

NASHVILLE, TENN., March 11, 1885.

Editor Manufacturers' Record:

The Byrne Manufacturing Co. has been organized with a capital of \$50,000 to still continue the manufacture of my specialties on a larger scale than heretofore, and also to manufacture on a large scale a spring sewing machine motor, for which I lately received a patent. My factory is large enough for present demands, but I will put in some special machinery adapted to the new work to be engaged in. P. BYRNE.

Activity at Maryville, Tenn.

MARYVILLE, TENN., March 10, 1885.

Editor Manufacturers' Record:

Cowan & Van Horn will build suitable quarters for general machine and repair shops. The new enterprise promises some importance. The American Button Works are running their full capacity and will soon add new machinery. Hanna & Thorn will make some additions to the Anchor Woolen Mills this spring. The saw mills in Eastern Tennessee are running at their fullest capacity. GEO. V. NEFF.

Machinery Wanted.

JACKSON, TENN., March 12, 1885.

Editor Manufacturers' Record:

Please place us in correspondence with manufacturers and dealers in first and second-hand boiler-makers' tools.

SHERMAN MANUFACTURING CO.

Two Big Enterprises.

COLUMBIA, S. C., March 16th, 1885.

We will erect during the coming summer a 90-inch Morse Compressor, with all modern improvements and attachments. Will also make addition to our sheds and platforms—75x205 feet.

Messrs. Oliver Bros., Charlotte, N. C., will erect, in Columbia, a cotton-seed oil mill, capacity 75 tons per day, at an estimated cost of \$75,000.

J. S. DUNN, Gen'l Man. Columbia Cotton Compress Co

A \$25,000 Factory.

LOUISVILLE, KY., March 16, 1885.

Editor Manufacturers' Record:

We have now standing on our grounds a large three and four story building, 70 by 195 feet, which is our present factory for the manufacture of our different brands of plug tobaccos. The erection of the new additional factory, at an expense of over \$25,000, is necessitated by our rapidly increasing business, and also with the view of having ample room for storage re-handling of leaf, &c.

PFFINGST, DOERHOEFER & CO.

Fine Flour Mill.

RICHMOND, KY., March 9, 1885.

Editor Manufacturers' Record:

We are building a \$30,000 flour mill, or rather, we might say, we are re-building our roller "Bonanza" mills, with extensive improvements and enlarged capacity over the one burned last October. Capacity 130 barrels per day. We will also have an elevator of 30,000 bushels capacity. A "creamery" is being established here, aided by citizens of this town. W. N. POTTS & CO.

EMINENCE, KY., March 10th, 1885.

I am changing my flour mill from a stone mill to a roller mill; capacity about one hundred barrels per day.

W. S. GITHIER.

A New Canning Factory.

NEW BERNE, March 12, 1885.

We will erect a canning factory at Union Point in New Berne. MOORE & BRADY.

New Foundry.

MARION, S. C., March 14th, 1885.

Editor Manufacturers' Record:

I am now building on to my shop and fitting up a small foundry, which I expect to have at work in less than two months.

EMERSON MCDUFFIE.

A Lead Mine.

PHILIPPI, BARBOUR CO., W. VA.,

March 13, 1885.

Mr. T. T. Elliott, Bennington, W. Va., Mr. L. C. Elliott and Mr. S. L. Reger, Philippi, W. Va., are opening a promising vein of lead on Red creek in Tucker county. J. H. WOODS.

SEVIERVILLE, TENN., March 14, 1885.

The following gentlemen are talking about building a flour mill in this place: R. S. Henderson, I. N. McMahan, W. P. Mitchell, G. W. McMahan, I. C. McMahan, P. Maples and William Catlett. They are trying to form a stock company, but can't say whether they will succeed or not.

To Rebuild.

ISOM'S STORE, TENN., 1885.

We expect to rebuild our mill this summer. We will need shafting, grist and saw mill. Perhaps will not put up wheat mills this year. R. KENNEDY.

TAMPA, FLA., March 14, 1885.

Editor Manufacturers' Record:

I have a lathe, planer and lot of small tools, and will add a wing to my shop; principal business the manufacture of patent shafting straighteners and general work.

J. H. WELLS.

Silver-Plated Ware.

Few of our readers realize the growth of this industry in the United States since its inception, and for their benefit we give a few facts of this business:

Wm. Rogers, the pioneer of electro silver-plated ware in this country, was born at Hartford, Conn., in 1801. After serving a regular apprenticeship in the jewelry and watch repairing, and silver spoon manufacturing business, he was admitted into partnership with his employer in 1825, and continued with him until 1836, when the partnership was dissolved, and Wm. Rogers continued the business alone. At this time the only spoons in use in the United States were solid silver spoons, copper spoons and german silver spoons, the latter two kinds being imported from the old country. Wm. Rogers, after much thought on the subject, concluded that electricity, which was then in its infancy as far as being used for mercantile purposes was concerned, could be utilized to deposit silver upon ware for table service, and having this end in view, he experimented with various results until 1840, when they—his brother Asa H. Rogers being with him and working with him in these experiments—were enabled to place upon the market a limited supply of electro silver-plated spoons, forks, &c.; they continued this business in a small way until 1847, when a copartnership was formed, consisting of the three brothers, William, Asa H. and

the country for their enterprise and push in their line of trade. Their name has become a watchword among the families who desire silver plated ware, and none are considered quite right without their trade mark thereon.

We print below an illustration of two new patterns in solid steel knives and forks; their handles are etched in three different styles, called respectively, alligator, leaf and check pattern; they are much prettier than the plain patterns, and do not cost much more. Our readers can learn the particulars regarding these goods by corresponding with the Wm. Rogers Manufacturing Co., drawer 30, Hartford, Conn.

The Corporation Bill Before the Texas Legislature.

"The Statesman has heretofore discussed this bill, and it has not changed its views in regard to its dangerous character, applicable to a great undeveloped empire like Texas. We have heretofore shown how the State's property values were increased by railway construction, accomplished alone through corporate power. We have shown that in 1871 the taxable values of Texas amounted to \$222,504,073; how in the following five years values increased at the average of not quite twenty millions of dollars annually, being in 1877 \$319,373,221; how during these five years railway building was slowly progressing in Texas, while the State, instead of undergoing rapid development, because of new and unsettled regions being opened

has been the goose that has laid golden eggs for Texas, and the bird's laying days are by no means ended, unless the government decree that she must fall beneath the ax. As it is with railway building, so it is with many other enterprises that are developing the State. Combined capital, made effective and protected by corporate existence, is building up waste places in Western Texas; is improving and stocking great ranches that contribute taxable wealth to the State; it is boring artesian wells and growing oases in desert places; is making the forests of Eastern Texas sources of great wealth.

The day has not yet come to kill corporations. The sudden extinction of slavery in the South set it back for nearly a life time. Had its extinction been gradual distress would not have been the immediate result of emancipation. So with corporations; their sudden extinction would retard progress in Texas, for capital necessary to develop the State has to be brought here from abroad and it must be procured through corporate influence. While on this question we may be permitted to make an extract from a letter just received in this city. It is written by a gentleman, connected with a cattle corporation of Western Texas, which has lately borrowed a large amount of foreign money. He says: 'In conversation with Mr.—, yesterday, he told me if the bill became a law in Texas—now pending in the senate—to abolish corporations, that it would eventually stop the workings of

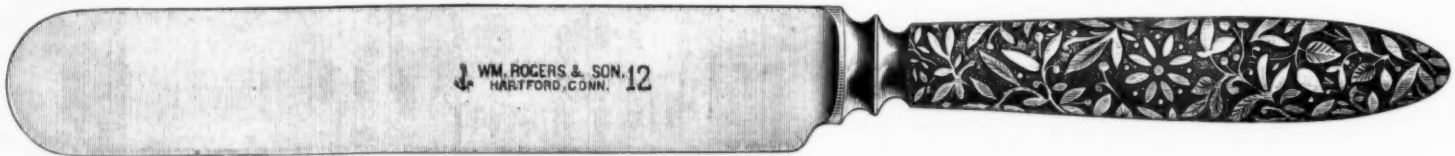
Literary Notices.

SHENANDOAH AND BEYOND; *Its Scenery, Legends, People and Lines of Travel.* By Ernest Ingersoll.

Under the above title the Shenandoah Valley and Norfolk & Western Railroads have issued a very handsome volume of 115 pages, illustrated with many engravings of the magnificent scenery along these roads. It is not simply a descriptive work, but is called by Mr. Ingersoll "The Chronicle of a Leisure Journey Through the Uplands of Virginia and Tennessee," sketching their scenery, noting their legends, portraying social and material progress, and explaining routes of travel. It is for free distribution, and can be had of Mr. A. Pope, general passenger agent, Roanoke, Va.

THE *Quiver*, an illustrated magazine for Sunday and general reading, presents a very attractive list of contents for April. This very excellent monthly is published by Cassell & Co., limited, New York. Price, \$1.50 a year.

MR. S. B. LOWE, Chattanooga, Tenn., has compiled a fine map of the mineral districts of the Cumberland Range through Tennessee, Georgia and Alabama, showing the location of coal fields, iron ore fields, blast furnaces, rolling mills, and principal lines of transportation. As the mineral resources of



Simeon S. Rogers, for the purpose of manufacturing the blanks and electro plating them for the market. Wm. Rogers continued in this business under various names until 1865, when he, with others, formed the Wm. Rogers Manufacturing Co., now doing



WM. ROGERS.

business in Hartford, Conn. He continued with this company until it was thoroughly established, and died February 17th, 1873, in the 72d year of his age. This company now does an annual business of four hundred thousand dollars, and are increasing their sales every year. In addition to this company there are a great many concerns in the country who manufacture silver plated ware of different grades, the sales of all of which, it is estimated, would amount in the aggregate to all of twelve million dollars or more per year.

The Wm. Rogers Manufacturing Co. have always followed in the footsteps of Wm. Rogers, as regards quality and workmanship on their ware, and they are noted throughout

up by penetrating railway lines, was doing little more than undergoing natural advancement; how in 1875 railway building had stopped, and the increase in values brought the sum total of assessments to only \$303,202,424; how in 1879, with only a little building on one line of railway, values reached to only \$304,193,163; how in 1880, with only a little work on one or two lines, values went to \$311,470,736; how railway building then revived; and for 1881 we see that the State's taxable wealth reached to \$375,000,000; in 1882 to \$410,927,476; and in 1883, when three great railway lines were penetrating Western Texas, to \$527,537,390. Two of these lines were not completed until during that year, and consequently, the railway boom not yet ended, the assessments in 1884 reached \$603,060,917. These figures, applied to the different years in which railway building was not progressing, and those in which it was, tell a wonderful tale as to the influence of railways upon the progress and development of Texas. The history of countries demonstrates more strongly still their influence. All this was the work of corporations, and Texas had even to encourage them in a great measure to secure what was done. Such results, as in these years, in building up wealth for Texas it is necessary to repeat again and again to make the State what it should be. Great works, requiring the use of enormous sums of money to complete them, acquire force in these days only through corporate power. Corporation

every corporation, foreign and local, and would effectually put a quietus on the investment of foreign capital in the State.

Afterward, in conversation with a large capitalist from Colorado, and largely interested in New Mexico, I learned that the passage of that bill would make lively times in those States, as all the foreign capital now seeking investment in Texas would be diverted to New Mexico and Colorado—as they invited capital into those States under any and all circumstances, in shape of corporations or otherwise. He was quite jubilant in the hope the legislature would pass such a law; said they just needed something of the kind to call the attention of the capitalists to the many inducements held out by those States in preference to Texas. I was not so much alarmed at his words and position as I was at Mr.—'s opinion, for which I have great respect. That bill should not become a law, as it would ruin our business and at the same time will place you and all others holding large properties in such a position that you will not be able to find any one to buy. No one man can be found that wants to go in so strong, but where many can be allowed to incorporate and avoid individual liability, a property of any value, no matter how large, can be placed."—Austin Statesman.

If you are not already a subscriber to the BALTIMORE MANUFACTURERS' RECORD send us \$3 and you will receive it regularly for one year, or six months for \$1.50.

the South are now attracting so much attention, this map will prove of much value. Price, 50 cents.

Few novels have been awaited with the interest of "Trajan," by Henry F. Keenan, which Messrs. Cassell & Company will issue in a few days. "Trajan" is an international story, the principal characters are Americans and the scene is laid in Paris, during the exciting days of the commune. Horace Howard Furness, the Shakesperian scholar, and Geo. H. Boker, the poet, give the story the highest praise.

"Kindly Light," a dainty volume of selections for every day in the year, edited by two young ladies who hide behind their initials, F. T. and E. R. C., is ready for immediate publication by Cassell & Company. The book has a most genial introduction from the pen of the Rev. Dr. Howard Crosby, who gives it his heartiest commendation.

The "Fine Art Library," edited by J. C. L. Sparkes, announced some time ago by Messrs. Cassell & Company as in course of preparation will be inaugurated in a few days by the publication of two volumes. "The English School of Painting," by Ernest Chesneau, translated by L. N. Etherington, with a preface by John Ruskin, and the "Flemish School of Painting," by Prof. A. J. Wauters, translated by Mrs. Henry Rosset. These books are beautifully printed and abound with illustrations representing the masters whose work is described.

Zell's Safety Boiler.

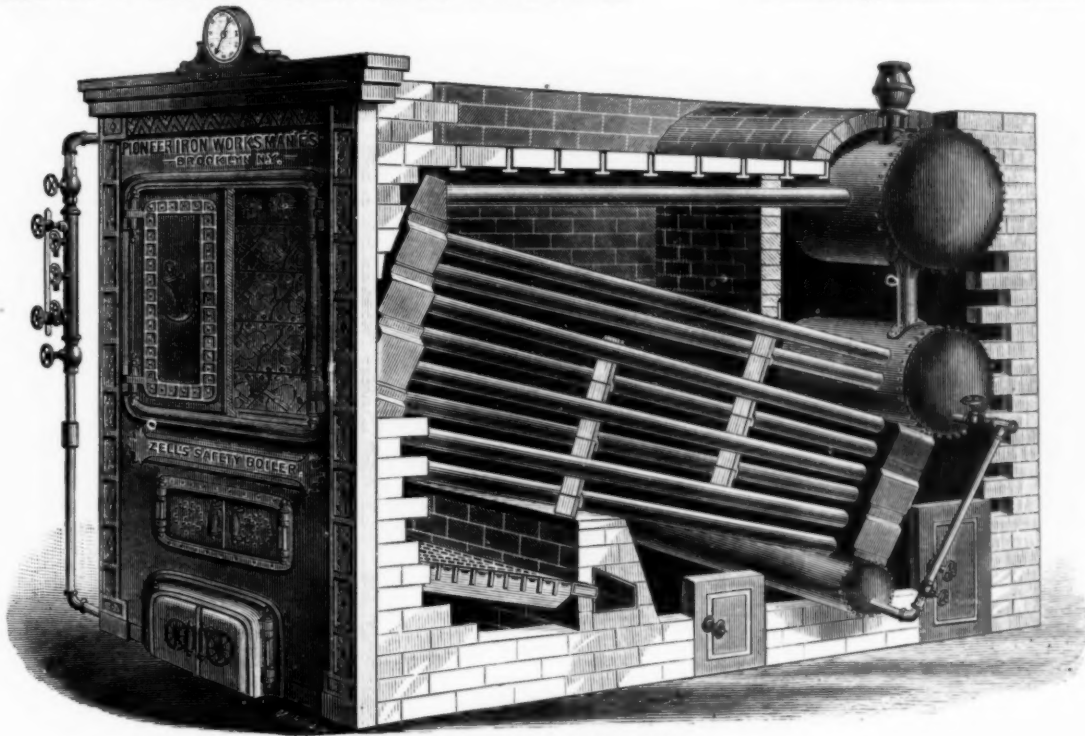
We illustrate this week the Zell Safety Water Tube Boiler, now manufactured by the Pioneer Iron Works, Brooklyn, N. Y. They claim to have overcome all the objections to Water Tube Boilers, having large steam and water capacity, the body of the water in the steel drums being removed from the fire and the course of the flame and heat is such that all the heat is utilized.

By reference to the cuts it will be seen that the water passes directly downwards into the sections from water drum and through the lower series of water tubes in contact

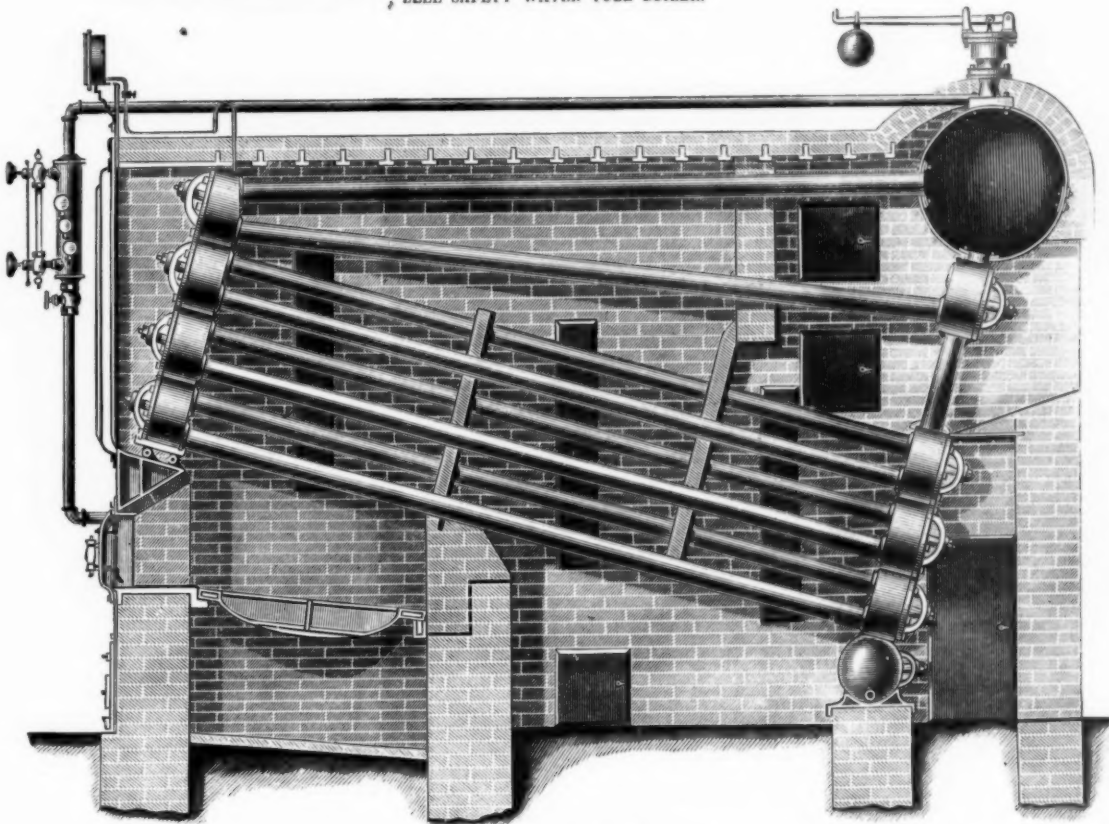
positively give dry steam, and will not carry water over to the engine, even when driven 30° beyond its rated capacity. The manufacturers are just issuing a new circular, and as the boiler is sold on a strong guarantee, manufacturers should investigate it. It is free from destructive explosions and the workmanship is first-class.

CAPITAL wanted to engage in the manufacture of furniture; also to change the machinery of a flour mill so as to make "New Process" flour. See advertisements in column of "Business Chances."

Huguenin, T. A., Charleston, S. C. Composition for curing paving blocks or bricks.... 313,823
Jolliffe, W. H., Baltimore, Md. Commode.... 313,597
Kaltenbacher, Dominick, Shelbyville, Ky. Blinder for bridles. (Reissue).... 10,569
Maxwell, G. S., Louisville, Ky. Electric contract-breaker.... 313,605
Moore, W. A., Charleston, S. C. Wagon-rack.... 313,754
Mullin, Garland W., Washington, Ga. Plow-point.... 313,832
Nichols, Urias R., New River, Tenn. Lumber-boom.... 313,608
Nolen, S. A., Searcy, Ark. Saddle-stirrup.... 313,609
Pace, R. G., Danville, Va. Stock-car.... 313,759
Pollitzer, Moritz, Beaufort, S. C. Knife-carrying crank-leg for cotton-gins.... 313,685
Saltsman, D. J., Brewton, Ala. Log-loader.... 313,536



ZELL SAFETY WATER TUBE BOILER.



ZELL SAFETY WATER TUBE BOILER.

with the fire, where, being heated and raised to a state of rapid ebullition, it passes upwards in front to the upper series of water tubes and back into the water drum, the steam separating at the highest point in the front sections and ascending through the 5-inch superheating tubes into the steam drum, by which means is obtained a continuous and rapid circulation of water, and a solid water level in water-glass. At the same time a complete separation of the saturated steam from the entrained water, and the drying or moderate superheating of the steam in the five inch tubes. This generator, it is claimed, does

List of Patents

The following Patents were granted to citizens of the Southern States, bearing date March 10, 1885. Reported expressly for this paper by Louis Bagger & Co., Mechanical Experts and Solicitors of Patents, Washington, D. C.

Clower, J. L., Plantersville, Ark. Combination-plow.... 313,473
Craig, A. J., Hickory, Miss. Cultivator.... 313,811
Cummings, Rockwood, Palmetto, Ga. Post-hole-digger.... 313,476
Dolman, J. H., Albany, Tex. Surveyor's instrument.... 313,659
Fields, C. C., Bristol, Tenn. Welding compound.... 313,716

Selz, Henry, Pilot Point, Texas. Feeder for cotton-presses.... 313,627
Stevenson, J. N., Salvia, Ky. Weeding and thinning device for growing plants.... 313,631
Stone, C. M., Belton, Tex. Baling-press.... 313,551
Wilson, Nelse, Hutto, Tex. Sash-fastener.... 313,638
Wimpee, G. C., Rome, Ga. Lifting-jack.... 313,794

ADVERTISERS wishing to reach the manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South, cannot find a better medium than the **BALTIMORE MANUFACTURERS' RECORD**. We are always prepared to furnish proof of our claims as to circulation.

THE MARKETS.

OFFICE MANUFACTURERS' RECORD,)
BALTIMORE, March 17, 1885.)

In this city the failure of the copper and metal firms of Pope, Cole & Co. and Pope & Cole for nearly \$1,000,000 has had a somewhat depressing effect, and, as usual at such times, rumors have been circulated of other troubles, when it is almost certain that there is not the slightest foundation for them. The failure of Pope Cole & Co., it is understood, was not due to their copper refining business being unprofitable, but to other transactions, and it is quite probable that the copper works will be continued in operation by a new company.

The general outlook for business is reported to be gradually improving, and the prospects are encouraging for increased activity. In the South especially, trade is becoming more active, and in industrial affairs there is a very marked improvement.

Manufactured iron continues dull and depressed, with prices largely cut to make sales. We quote nominally as follows:

Ref. Bar Iron, 1 to 6x3/4 to 1.....	1.80	1.90
" " 1 to 4 1/2x1 1/4 to 1.....	1.80	1.90
" " 3/4 to 2, round and.....	1.80	1.90
Hoop Iron, 1 1/2 wide and upward....	2 1/2	2 3/4
Band Iron, from 1 1/2 to 6 in. wide....	2 1/2	2.60
Horseshoe Iron.....	3.20	3.30
Norway Nail Rods.....	3	3 1/2
Black Diamond Cast Steel.....	10	11
Machinery Steel.....	4 1/2	4 3/4
Spring Steel.....	3 1/2	4
Common Horse Nails.....	10	11
Railroad Spikes, 5 1/2x9-16.....	2.50	2.60

The demand for pig iron shows no change, sales continuing as last reported, of moderate lots as needed for present wants. We quote:

Baltimore Charcoal Wheel Iron (all Baltimore ore).....	28	00	29	00
Virginia C. B. Charcoal Wheel Iron.....	28	00	29	00
Anthracite, No. 1.....	19	00	20	00
" " ".....	17	00	18	00
" " ".....	15	00	16	00
" " ".....	13	00	14	00

HARDWARE.

There is a moderate amount of business doing, and some liberal orders are being taken for goods to be delivered in the fall, indicating the belief that there will be no further decline in prices. In prices we make changes, which will be found in our price-list in castors, axes, lawn mowers, door locks and padlocks, shears and scissors, and rules and rivets.

Nails are in only very moderate demand, though an improvement is looked for as soon as the building season fairly opens. The price is \$2.25, though some shading might be made on very large orders.

Mr. Arthur Emory, hardware commission merchant, 71 & 73 German street, Baltimore, has been appointed agent of the Hollidaysburg Iron & Nail Co., whose nails are of excellent quality. Mr. Emory now has a full stock on hand, and will sell at manufacturers' lowest prices.

Philadelphia Iron Market.

PHILADELPHIA, March 16, 1885.

The steel rail makers of this State and New York have secured several good sized orders, and have inquiries in hand for supplies both of steel rails and steel ingots, which look as though the long dull period was about at an end. Sales of the past six days will foot upwards of 30,000 tons. It would be difficult to get at the actual sales. Much more business is transacted than is reported or acknowledged. One sale has just been closed which will net the makers \$25 at mill. If rails can be made at this figure, there will be some sharp competition, but a good many buyers are taking it for granted that \$26 is about the inside figure and are placing their orders with more freedom at that price. There is a good deal of inquiry for old iron and steel rails. In this market old Tee rails are \$17.50 to \$18.00. American rails are \$18.50; steel rails would sell at \$15; bull head rails \$18; double heads \$20. There is also a good deal of inquiry for scrap, and the yard men are doing a fair amount of

business at better prices than they were able to get last fall, but the firmness will not last long, as there is plenty of stuff arriving, which has been frozen up all winter. Car wheels are worth \$15; machinery scrap \$14; fish plates \$20 to \$22; selected wrought scrap \$18; cargo lots \$16 to \$17, according to quality. There are prospects that Southern irons will continue in good demand here. Three or four parties have been negotiating for supplies, but find it not so easy as it was a few weeks ago to get what they want at their own figures. Pennsylvania irons are still selling in a quiet way at \$18, \$17 and \$16. Some say there is prospect of more furnaces blowing in, and good iron selling at a better price. When this takes place the facts will be announced. The bar mills are not doing very much more. The nail mills are busy and prices are firm. The sheet and plate mills are gathering up more orders. The bridge iron makers are still doing only a little business in the way of large orders.

Cincinnati Iron Market Report.

Specially reported by ROGERS, BROWN & Co., Pig Iron Commission.
CINCINNATI, March 16, 1885.

The pig iron market is holding an even course. The liberal buying by the large consumers, before noted, has been followed by some slight improvement in the demand from smaller foundrymen. The material in most active request just now is old iron rails, which have advanced in price a dollar or more per ton within a few weeks. The high cost of puddling, under the association wage scale, added to the very low prices of manufactured iron, have driven many mills to the use of rails and wrought scrap, which do not have to be puddled. The extreme low prices for all forms of iron tend to encourage building enterprises of every kind, and the demand from this source is steadily growing. The railroads also are giving out a good deal of work, and some of the car shops are nearly filled up for the year. There is still much complaint of dullness from the small foundries. We quote for cash f. o. b. Cincinnati:

HOT-BLAST FOUNDRY.	
Ohio and Southern Strong Coke No. 1.	\$16 75@17 25
" " " " No. 2.	15 75@16 25
" " " " No. 3.	14 75@15 25
Ohio Soft Stonecoal, No. 1.	17 00@18 00
" " " " No. 2.	16 50@17 00
CHARCOAL IRON.	
Hanging Rock, No. 1.	\$20 00@21 00
" " " " No. 2.	19 00@20 00
Tennessee and Alabama, No. 1.	18 50@19 50
" " " " No. 2.	17 50@18 50
FORGE.	
Strong Neutral Coke.	\$14 00@14 50
Mottled " "	13 00@13 50
Cold Short.	13 50@14 00
CAR WHEEL AND MALLEABLE.	
Southern Car-Wheel Iron.	22 00@24 00
Hanging Rock C. B.	25 00@27 00
" W. B.	20 00@23 00
Lake Superior Malleable.	23 00@24 00

Specially reported by E. L. HARPER & Co.

CINCINNATI, March 16, 1885.

The market continues moderately active, and prices are consequently well sustained. There is a marked improvement in the demands upon the car builders, which is a cheering indication, and the general outlook grows more encouraging to the trade, consumers as well as producers, as spring trade and settled weather approach. We quote as prices current cash f. o. b. cars or wharf Cincinnati:

FOUNDRY.	Cash.
Hanging Rock Charcoal, No. 1.	\$20 00@21 00
" " " " No. 2.	19 00@20 00
Strong Neutral Coke, " "	16 75@17 50
American Scotch, " "	15 50@16 25
GREY FORGE.	
Neutral Coke.	14 00@14 50
Cold Short.	14 00@14 50
CAR WHEEL AND MALLEABLE.	
Hanging Rock, strictly cold blast.	25 00@25 50
" " " " warm " "	22 00@22 50
Lake Superior Charcoal, all grades.	21 50@22 00
South. Car Wheel, strictly cold blast.	22 00@23 00
Amherst and Virginia Warm Blast.	21 00@21 50

Louisville Iron Market.

Specially reported by GRO. H. HULL & Co., Commission Merchants for the sale of Hot and Cold Blast Pig Iron.

LOUISVILLE, KY., March 16, 1885.

The market for pig iron shows no change during the last week. The demand is only

moderate, but prices continue without change. We quote for cash as below:

FIG IRON.	
Southern Coke, No. 1 Foundry.	\$16 50@17 50
" " " " No. 2.	15 50@16 50
Hanging Rock Coke, No. 1 Foundry.	16 00@17 00
" " " " Charc'l.	21 00@21 50
Southern Charcoal, No. 1 Foundry.	18 00@19 00
Silver Gray, different grades.	15 00@16 00
Southern Coke, No. 1 Mill, Neutral.	13 75@14 50
" " " " " " Cold Short.	13 25@13 50
Southern Charcoal, No. 1 Mill.	16 00@17 00
White and Mottled, different grades.	12 00@13 00
Southern Car Wheel, standard brands.	25 00@26 00
" " " " other brands.	20 00@22 00
Hanging Rock Cold Blast.	24 00@25 00
" " " " Warm " "	20 00@21 00

Chattanooga Iron Market.

Specially reported by S. B. LOWE.

CHATTANOOGA, TENN., March 16, 1885.

Spring has set in at last. Plowing is the general order of the day. The severe cold weather and heavy frost of the past winter is considered as very conducive to bring good crops for the present season. Business of all kinds is very active. There is still the regular flow of visitors to and from the New Orleans Exposition; some very enthusiastic in their experiences and a few grumblers; they would not be human were they otherwise. We quote:

No. 1 Foundry.	\$15 00 @16 00
No. 2 Foundry.	14 50 @15 00
American Scotch.	14 50 @15 00
Gray Forge.	13 00 @13 50
Car-Wheel Iron.	22 00 @24 00
Ores, Red and Brown.	1 50 @ 2 25
Furnace Coke.	2 00 @ 2 50
Nails, car-load lots, 30 days.	— @ 2 25
Bar Iron, per lb.	— @ 1 75
Old Rails.	— @ 1 60
Old Wheels.	— @ 13 50
Wrought Scrap, No. 1.	— @ —
" " " " No. 2.	— @ —
Cotton Tie Clippings.	— @ —
Cast Scrap.	— @ —
Rail-Road Splices.	— @ 1 75
Light Rails.	2 00 @ —
Barbed wire—four point galvanized.	— @ —
Barb wire—Cambria link.	05 @ 05 1/2

BRASS.

ROLL AND SHEET BRASS.

Brown & Sharpe's Gauge the Standard.
New List, Jan. 17, 1884.
Dis 25 %

COMMON HIGH BRASS.	
Wider than 1/2 in. and including.	10 12 14 16 18 20
To No. 20, inclusive.	.21 .22 .23 .25 .27 .29
Nos. 21, 22, 23 and 24.	.22 .23 .24 .26 .28 .30
Nos. 25 and 26.	.23 1/2 .24 1/2 .25 1/2 .27 .29 .31
Nos. 27 and 28.	.23 .24 .25 .28 .30 .32
Add 9 cts. 1/2 lb. for sheets cut to particular widths and lengths.	
Add 1/2 c. 1/2 lb. additional on each number thinner than Nos. 28 to 38 inclusive.	
Brass thinner than No. 38 is Platers' Brass.	
Printers' rules.	— @ .55 cts.
Printers' Sheets and Plates cut to particular sizes and lengths to No. 20, inclusive.	— @ .30 cts.
Brazing, Spinning and Spring Brass, one cent more than common High Brass.	
Low Brass four cts. 1/2 lb. more than common High Brass.	
Gilding, Oreide and Bronze seven cts. 1/2 lb. more than common High Brass.	

SLITTING METAL.

Add to list as follows:

Over 1/2 in. to 2 in., inclusive, Nos. 12 to 20, inclusive.	1 1/2 c.
Over 1/4 in. to 1/2 in., inclusive, Nos. 12 to 20, inclusive.	1 c.
1/4 in. and narrower, not less than 1/8 in.	4 c.
Over 1/8 in. to 1/4 in., inclusive, Nos. 21 to 28, inclusive.	1 c.
Over 1/16 in. to 1/8 in., inclusive, Nos. 21 to 28, inclusive.	2 c.
1/16 in. and narrower, Nos. 21 to 28, inclusive, not less than 1/32 in.	6 c.
Over 1/32 in. to 1/16 in., inclusive, Nos. 29 to 32, inclusive.	1 1/2 c.
Over 1/64 in. to 1/32 in., inclusive, Nos. 29 to 32, inclusive, not less than 1/128 in.	3 c.
Over 1/8 in. to 1/2 in., inclusive, No. 33 and thinner.	12 c.
Over 1/4 in. to 1/2 in., inclusive, No. 33 and thinner.	3 c.
Over 1/8 in. to 1/2 in., inclusive, No. 33 and thinner.	6 c.
1/8 in. and narrower, No. 33 and thinner, not less than 1/128 in.	18 c.
1/16 in. Metal cut to particular lengths, 1/2 lb. additional.	5 c.

PLATERS' OR GOLD METAL.

In bars.	40c.
In ingots.	43c.
In ingots, planed or polished.	46c.

BRASS TUBING.

Brown & Sharpe's Gauge the Standard for all Tubing.	Per lb.
Plain, to No. 20, inclusive.	35
Above 2 1/2 inch to 3 inches, inclusive.	45
Plain, to No. 21, above 3 inches.	45
" 3-16 inch to No. 20.	45
" 1/4 inch.	60
" 3-16 inch.	45
" 1/2 inch.	1.00
Bronze Tubing 3 cents per pound more than Brass.	
Nos. 21, 22, 23, two cents advance on list for each number.	
Nos. 24, 25, 26, four cents advance on list for each number.	
Above No. 26, special rates.	
All Mandrel-drawn Tubes, 3/8 inch and above, five cents advance on list prices.	
All Mandrel-drawn Tubes under 3/8 inch, twenty-five cents per pound advance on list prices.	
Fancy Tubing to No. 20.	\$0.43

English, Scotch and Extra Pattern Fancy Tubing to No. 20. Tubing sawed or cut, 2 to 4 feet long, one cent advance on list. Add to one cent one-half cent for each additional cutting under two feet.

WIRE IN COILS.

Old English gauge the Standard.

	Common High Brass.	Low Brass.	Gilding, Bronze and Copper.
All Nos. to No. 16, inclusive.	\$.22	\$.26	\$.30
Nos. 17 and 18.	.23	.27	.31
" 19 and 20.	.24	.28	.32
" 21.	.25	.29	.33
" 22.	.26	.30	.34
" 23.	.28	.32	.36
" 24.	.30	.34	.38
" 25.	.32	.36	.40
" 26.	.35	.39	.43
" 27.	.38	.42	.46
" 28.	.42	.46	.51
" 29.	.45	.49	.54
" 30.	.48	.52	.56
" 31.	.51	.55	.57
" 32.	.55	.59	.63
" 33.	.59	.63	.68
" 34.	.64	.68	.75
" 35.	.70	.74	1.30
" 36.	.76	.80	1.50
" 37.	1.00	1.04	1.70
" 38.	1.30	1.34	2.00
" 39.	2.00	2.00	3.25
" 40.	2.60	2.60	5.75

Spring Wire, 2 cts. 1/2 lb. advance.
Whitened Wire, 3 cts. 1/2 lb. advance.
Flat, Square and Half-round Wire 4 cts. advance on Round Wire.
Fancy Wire not less than 10 cts. advance on Round Wire.
Spooling on one-pound spools 12 cts. 1/2 lb. extra.
Spooling on ten-pound spools or more, 2 cts. 1/2 lb. extra.

METALS.

TIN PLATES.

BLOCK TIN.

"Lamb and Flag," and "Straits."

Large Pig.	19
Small Pig.	20
Bars.	25

TINNERS' SOLDER.

No. 1 Refined.	13
Market Half-and-Half.	15
Strictly Half-and-Half.	16

ROOFING PLATS.

IC, 14x20, Choice Charcoal Terne.	5 50
IX, 14x20, " " "	7 25
IC, 20x28, " " "	11 00
IX, 20x28, " " "	14 50
IC, 20x28, Extra fine quality, charcoal roofing, genuine "old style" redipped.	14 00
IX, 20x28, " " "	18 00

COKE PLATES.

IC, 10x14, bright, "B. V." grade.	5 00
IC, 14x20, " " "	5 00
IX, 14x20, " " "	7 00
IC, 10x20, Gutters.	9 00

SHEET ZINC.

In casks of 600 lbs., 1/2 lb.	5 1/2
In smaller quantities, 1/2 lb.	6

TIN PLATES.

IC, 10x14, Charcoal	6 00
IX, 10x14, " "	8 00
IC, 12x12, " "	6 20
IX, 12x12, " "	8 20
IC, 14x20, " "	6 00
IX, 14x20, " "	8 00
IC, 14x20, " "	10 00
IX, 14x20, " "	12 00
IC, 14x20, " "	14 00
IX, 14x20, " "	18 00
DC, 100, Plate	6 00
DX, 100, " "	8 00
DX, 100, " "	10 05
DX, 100, " "	12 05

RABBIT METAL.

No. 1 Ordinary.	25
Antimony.	0
Excelsior Rabbit Metal, No. 2.	18
" " " " " "	10
" " " " " "	9

LEAD.

Pig.	4
Bar, (15 oz. bars).	6 1/2
Sheet.	7 1/2
Pipe, full coils.	6 3/4

COOPER.

Tinned Sheathing, 14x48, 14, 16, 18 oz.	25
" " " " " " " "	35
" " " " " " " "	37
Cooper Pit Bottoms.	25
Finning Extra.	15
Brazier's Copper, 15 to 100 lb.	26
" " " " " " " "	28
" " " " " " " "	30
" " " " " " " "	32
Bolt	25
Tinning extra.	40

LODGE, BARKER & CO.

Cincinnati, Ohio.

Manufacturers of first-class

Square Arbor Fox and Improved Turret Lathes, Valve Milling Machines, Box Chucks, Turret Chucking and Engine Lathes. Write for Catalogs, Photographs and descriptions.

J. S. JOHNSON & CO.

Manufacturers of Twine and Netting.



Importers of Knox's Gilling Thread and all kinds Fishing Tackle, and dealers in Cordage. 61 South Street, Baltimore, Md.

Derby Roll Top Desks.

—Best Office Desk in the World.—



Cherry, Walnut, Oak, Ash and Mahogany.

Send for Illustrated Catalogue.

DERBY & KILMER DESK CO.

55 Charlestown St., Boston, Mass.

SHEET IRON

ROOFING.

Northrop's Patent Cap Seam Iron Roofing.

No rivets, screws or nails through the sheets. Easily applied and perfectly watertight.

CRIMPED IRONS

of various styles for Roofing and Siding.

IRON CEILING.

ORNAMENTAL. DURABLE. FIRE-PROOF.

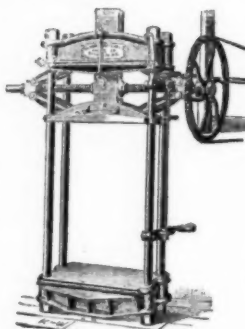
A. NORTHROP & CO.

97 First Avenue,

PITTSBURGH, PA.

Baling Press

IRON OR WOOD FRAME.



BY HAND OR POWER.

COTTON, WOOLLEN or PAPER FACTORIES

—ALSO—

Lard, Tallow, Oleo., Paraffine, Cotton Seed, Castor Oil, and many other kinds of Presses. Send for circulars.

BOOMER & BOSCHERT PRESS CO.

Syracuse, N. Y.

—OR—

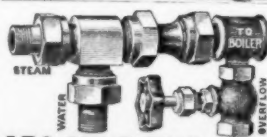
—219 Fulton St., New York City.—

Architectural Iron Works.

J. P. WALTON & CO.

CINCINNATI, OHIO.

Manufacturers of all kinds of IRON WORK for building purposes.—Store Fronts, Columns, Lintels, Joists, Scaffs, Railing, Roof-Trusses, Doors, Shutters, etc. Jail work a specialty. Write us for catalogues.



DESCRIPTIVE CATALOGUE FREE.

RUE MFG CO. PHILAD'A

For all kinds of STEAM BOILERS.

COAL LAND FOR SALE.

One of the most desirable coal properties in the South can be bought at an extremely low price. It is located in the great coal district of Birmingham, Ala., and is only two to three miles from that city. It consists of 2,800 acres of Coal Land in fee, and mineral rights, and 1,400 acres under favorable lease for 20 years. There are three good openings on the land—a large seam 7 feet 4 inches thick (coking coal), another 4 feet 2 inches thick, and another 4 feet; two good steam and coking coals, and one good grate coal. A railroad, 5 miles in length along the entire length of the outcrop, would connect the Louisville & Nashville, and Georgia Pacific Railroads. This is one of the finest opportunities ever offered for investment in coal mining in the South.

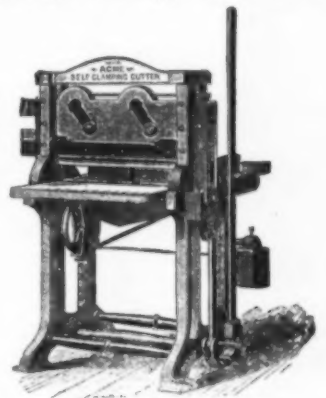
For particulars address
BIGSBY & EDMONDS,
Baltimore, Md.

THE ACME SELF-CLAMPING PAPER CUTTERS,

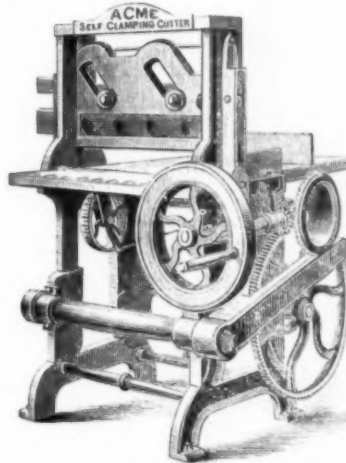
Accurate, Durable and Strong, Saves Time, Very Rapid, Superior in every point of Excellence.

This line of cutters now enjoys the highest reputation for strength, power, durability, accuracy, simplicity, convenience and a superior principle of operation, and they are used by the leading printers, book binders, paper dealers, lithographers and paper manufacturers of the country. The essential features are

1. It is a perfect self-clamping cutter, clamping the paper and cutting at one operation, giving double the speed and saving one-half the work of cutting.
2. The clamp is made in two parts, the regular width being two and a half inches. Half of it may be taken off, allowing the back gage to come within one and one quarter inches of the knife, an invaluable feature for narrow work.
3. The back gage is moved by a metallic hand (passing over a wheel) on which is also an indicator giving the exact distance from the edge of knife to back gage. The gage is moved very fast, with ease, and the indicator renders the operation of gaging absolutely certain.
4. A perfect system of side squares.
5. Economical and convenient round cutting sticks, giving 50 cutting surfaces where there is only 8 on other makes.
6. A great number of little conveniences found in no other cutter. With every facility for taking up wear and adjusting correctly.
7. Thorough construction: steel shafts are used on all, and cut geared in the larger machines, and everything of the best. Having the best machines in the world, the manufacturer will not cheapen the machine, and will guarantee them satisfactory, or they can be returned at his expense.

**THE LEVER ACME.**

Strongly made, gaged with an indicator, has side squares, and is warranted accurate. The lever is very long, giving the greatest power, and is made of wrought iron.

**HAND WHEEL ACME.**

Specially designed for those who require the heaviest work done, but have no steam power. It will cut any amount of paper that can be put under the clamp with the greatest ease, but is slower than the lever cutter. The balance wheel is in front, at the operator's right hand, and may be operated without change of position.

**REGULAR ACME.**

DOUBLE GEAR.

This machine is made very strong and heavy. Power is applied at both ends of the knife bar. Designed for the heaviest class of work. Unsurpassed by any first-class cutter made. Can be operated by hand with ease. This cut shows the new Treadle Clamp recently applied to the Acme Cutters, by which the operator has the use of both hands while clamping the paper. A regular hand clamp may also be applied to any of these cutters if desired. Price of either style is \$25 extra. Circulars giving full details and accurate engravings of the Acme Cutters will be sent on application.

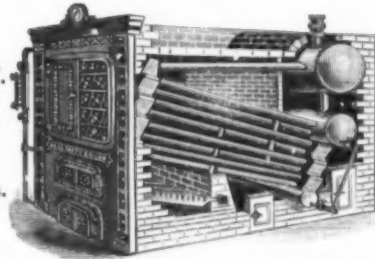
Prices, \$200 to \$1,600.

C. C. CHILD, 64 FEDERAL STREET, BOSTON, MASS., U. S. A.

Manufacturer of 40 sizes and styles of Acme Cutters, and 15 sizes and styles of Two-Revolution Cylinder Presses.

Zell's Safety Water Tube Boiler.

Over 2,000 H. P.
sold in the first
six months.
Send for Circulars.



Economy
Unexcelled,
Durability
Guaranteed.

POSITIVELY WILL NOT EXPLODE.
PIONEER IRON WORKS,
Manufacturers,
KING AND WILLIAM STREETS,
BROOKLYN, N. Y.

—WM. C. CODD, BALTIMORE, Southern Agent.—

BRASS!

Roll, Sheet and Platers' Brass,

and GERMAN SILVER.

COPPER, BRASS AND GERMAN SILVER WIRE,

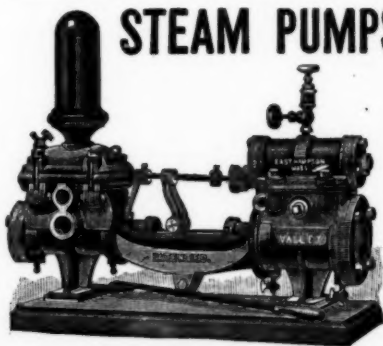
BRASS and COPPER TUBING,

BATTERY and PLATERS' SILVER, &c.

PHILIP R. VOGEL, JR.

Manufacturers' Agent.

No. 79 German Street, Baltimore, Md.

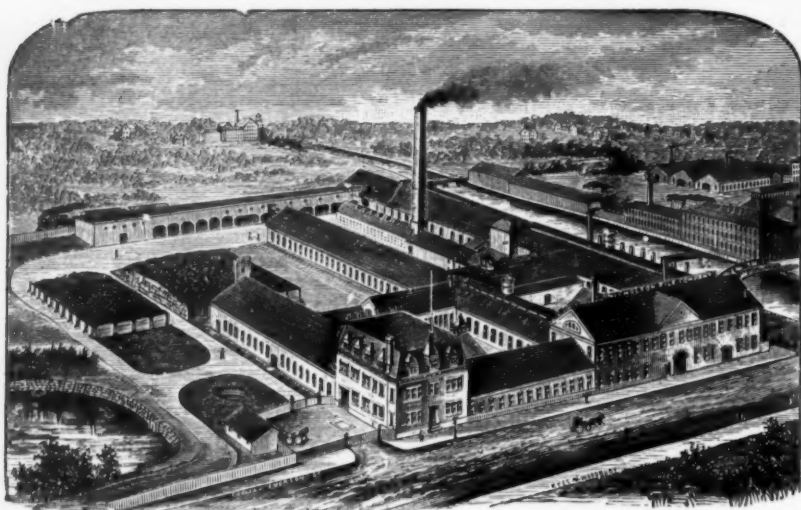
STEAM PUMPS FOR EVERY DUTY.

Best
Boiler Feed
PUMPS
in the
World.



Acme. Bucket Plunger.

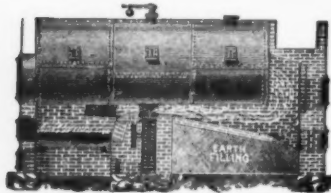
VALLEY MACHINE CO.,
Easthampton, Mass.



Nicholson File Co.

Works—PROVIDENCE R. I.—1882.

JARVIS PATENT FURNACE FOR SETTING STEAM BOILERS.



Economy of Fuel, with increased capacity of Steam Power. Like the **Siemens Process of Making Steel**, it utilizes the waste gases with hot air on top of the fire. Will burn all kinds of waste fuel without a blast, including Slack Coal, Sawdust, Logwood Chips, &c. Send for Circulars.

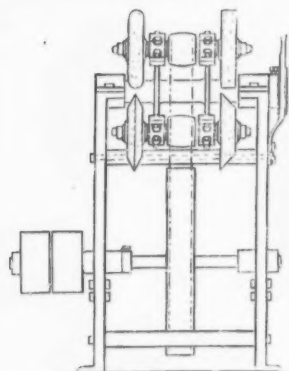
Jarvis Engineering Co.,

A. F. UPTON, Treas. and Gen'l Manager,
61 Oliver St., Boston, Mass.
JOSHUA C. COE, Agent for Maryland and Virginia,
O'Donald's Wharf, Baltimore, Md.

SOUTHERN REFERENCES:

Eagle & Phenix Mfg. Company, Columbus, Ga.
Anniston Mfg. Co., Anniston, Ala.
J. P. King Mfg. Co., Augusta, Ga.
Rose Mining Co., Charleston, S. C.
Maryland Pavement Co., Baltimore, Md.
Brush Electric Light Co., Baltimore, Md.
Ettrick, Matoaca and Battersea Mfg. Co's.,
Petersburg, Va.
Rasin Fertilizing Co., Baltimore, Md.
Tanner & Delaney Engine Co., Richmond, Va.
Sibley Mills, Augusta, Ga.

Graniteville Mfg. Co., Graniteville, S. C.
Charleston Bagging Co., Charleston, S. C.
P. H. Mayo & Bros., Richmond, Va.
Phosphate Mining Co., Beaufort, S. C.
Brush Swan Electric Light Co., Norfolk, Va.
Columbus Ice & Refrigerator Co., Colum-
bus, Ga.
Lenoir Manufacturing Co., Lenoir, East
Tennessee.
Vanceuse Mill, Graniteville, S. C.



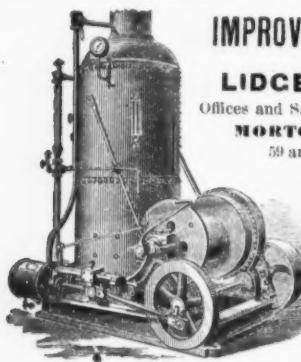
BLAISDELL'S
Eight Wheel Emery Machine,

FOR GRINDING
ALL KINDS OF IRREGULAR CUTTERS.



GOODELL & WATERS.

Manufacturers of all kinds of WOOD-WORKING MACHINERY, Warerooms, 115 1/2
Liberty Street, New York. J. H. BLAISDELL, Manager.



IMPROVED HOISTING ENGINES,

MANUFACTURED BY THE
LIDGERWOOD MFG. CO.,

Offices and Salesrooms: 96 Liberty St., New York.

MORTON, REED & CO., Agents.

59 and 61 German St., Baltimore.

Specially adapt-
ed for Railroad
and Contractors'
uses, Pile-driving,
Bridge and Dock
Building, Excava-
ting, etc. Single
or double cylin-
ders, with single
or double improv-
ed friction drums,
with or without
Pillars.



FOR SALE CHEAP!

40 Horse Power VERTICAL BOILER.

This Boiler was built to order, of very best materials and workmanship; has double-riveted seams; was used but a short time, and is much better than most of the new boilers now made. Cost to build, \$650. For sale at HALF-PRICE, with fixtures, &c. Is a RARE BARGAIN. Ready for immediate delivery. Also, 8-horse HORIZONTAL ENGINE; very strong and heavy.

JOSEPH B. MATTHEWS,

41 Centre Market Space, BALTIMORE, MD.

MOOPES & TOWNSEND,

MANUFACTURERS,

PHILADELPHIA, PA.



KEYSTONE BOILER RIVETS.

Cold-Punched Square and Hexagon Nuts.

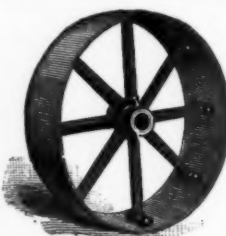
Finished and Case-Hardened Steel Hexagon Nuts

BRIDGE RODS AND RIVETS.

BUILDERS' IRON WORK.

TANK AND COOPERS' RIVETS.

THE MEDART PATENT



WROUGHT RIM PULLEY.

THE LIGHTEST, STRONGEST,
BEST BALANCED, AND CHEAPEST
IN THE WORLD.

Whole pulleys from 9 inches to 120 inches diameter. Split pulleys from
12 inches to 120 inches diameter.

All widths of face up to 36 inches, crowning or straight, with single,
double or triple sets of arms. Also tight and loose pulleys. Absolute
Satisfaction Guaranteed. SHAFTING, HANGERS, COUPLINGS, &c.

MEDART PATENT PULLEY CO.,

1206 TO 1214 N. MAIN STREET, ST. LOUIS, MO.

STORES: 99 & 101 W. Second St., Cincinnati. 24 & 26 S. Canal St., Chicago.

MACHINE MOULDED



Cast Pulleys

—Turned, Bored and Balanced.—

Also HANGERS, Every Description of COUPLINGS and SET COLLARS.

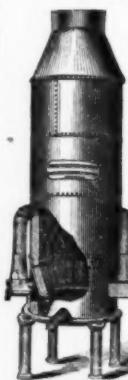
Send for Price List and Discounts.

Todds & Stanley Mill Furnishing Co.

Office and Factory, 917 N. 2d Street, ST. LOUIS.

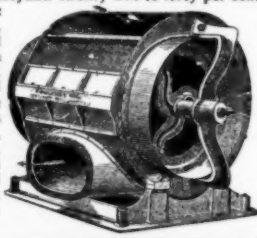
THE MACKENZIE PATENT CUPOLA AND BLOWER

Send for Circular to SMITH & SAYRE MFG. CO., Proprietors, 245 Broadway, N. Y.

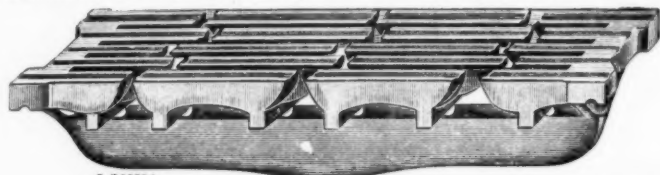


This Cupola has made a great revolution in melting Iron. It differs from all others in having a CONTINUOUS TUYERE, or in other words, the blast enters the fuel at all points. Above one ton capacity per hour, they are made oval in form. This brings the blast to the center of the furnace with the least resistance and smallest possible amount of power, and in combination with the continuous Tuyere causes complete diffusion of the air throughout the furnace, and uniform temperature, melting ten or fifteen tons an hour with the pressure of blast required to melt two or three tons in an ordinary Cupola. It also enables us to save very largely in time and fuel, the experience of our customers showing a gain of twenty-five to fifty per cent. in time, and twenty five to forty per cent. fuel over the ordinary Cupola, and a BETTER QUALITY OF CASTING, especially in light work. This is due to the thorough diffusion of the air and more perfect combustion, extracting less carbon from the iron, making a softer and tougher casting.

We manufacture these Cupolas of any desired capacity, numbered from 1 to 20, inclusive, the numbers indicating the melting capacities in TONS PER HOUR—No. 1, one ton; No. 2, two tons; No. 3, three tons per hour, and so on up to 15, or 20 tons. We have improved the construction of these Cupolas in every way, have increased their strength and durability, and sought to make them as convenient for working and repairs as our own and the experience of our customers could suggest.



WREN'S PATENT GRATE BAR.

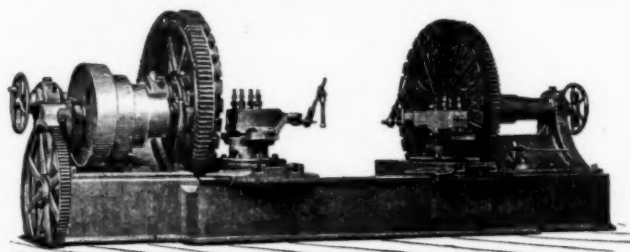


Is Enduring, Economical, Saves Fuel, Carries a Live and Even Fire.

Send for Circular and list of users.

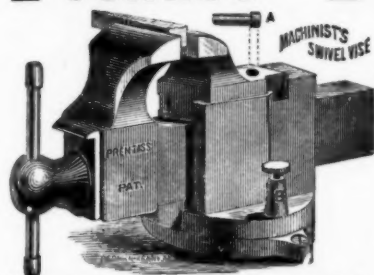
DAVID S. CRESWELL,

83 RACE STREET, PHILADELPHIA, PA.

WM. B. BEMENT & SON,

Philadelphia,
Manufacturers
of
**METAL
Working
Machine
TOOLS**

of all descriptions, and of a great number of sizes, including Lathes, Planers, Drills, Shapers, Slotters, Milling and Boring Machines, Steam Hammers, Steam and Hydraulic Riveters, Cranes, Punches, Shears, Bending Rolls, Plate Planers, &c.

Prentiss' & Patent & Vises.

Adjustable Jaw.

Stationary or Pat. Swivel Bottoms

CANNOT GET OUT OF ORDER.

Cheapest and Best Vises for Railroad Shops, Machine Shops, Manufacturers, Mechanics, &c.



"PEERLESS" (SWIVEL) PIPE GRIP.

For Sale by the Trade.

"Peerless" (Swivel Jaw) Pipe Grip.
Every Part Interchangeable.
CAN BE USED ON ANY VISE.

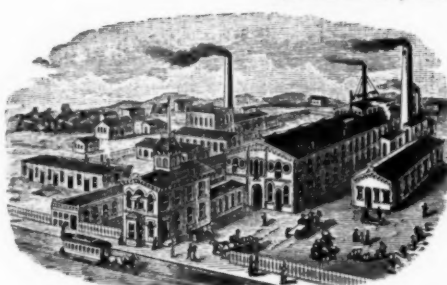
PRENTISS VISE CO., 23 Dey Street, NEW YORK, Sole Proprietors.

Ludlow Valve Manfg. Co.

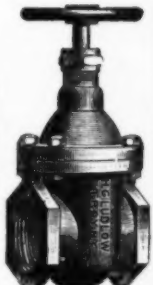
Office and Works:

938 to 954 River Street, and 67 to 83 Vail Avenue,

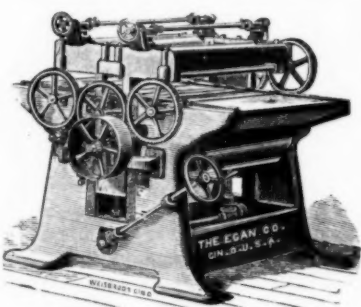
—TROY, N. Y.—



VALVES
Double and Single Gate, 1/8 inch to 48 inch—outside and inside
Screws, Indicators, etc., for
Gas, Water, Steam, Oil.
Send for Circular.



Also Fire Hydrants, Yard and Wash Hydrants, Check and Foot Valves.

**Wood-Working Machinery**

Of the Latest and most Improved Designs for
Planing Mills, Furniture Factories, Chair
Factories, Car and Agricultural Works,
Carriage and Buggy Shops and
GENERAL WOOD WORKERS,

MANUFACTURED BY
THE EGAN CO.

(Successors to the Cordesman & Egan Co.)

228 to 240 W. Front St. Cincinnati O., U. S. A.
Thos. P. Egan, Pres. Ed. Ruthven, Sec. F. Danner, Sup.

EWART'S PATENT CHAIN BELTING

Especially designed for the rapid and economical
handling of Grain, Malt, Saw Dust, Coke and Clay, Dry
and Spent Tan, Phosphates and Chemicals, Broken Stone,
Coal, Ice, Ores, etc.

R. SWORMSTEDT,

48 S. FREDERICK ST.

Sole Agent for Maryland, Virginia,
North Carolina, South Carolina and
Georgia.

Send for Illustrated Catalogue.

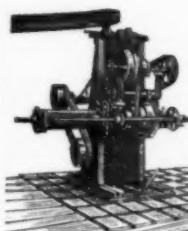
Please mention this paper.

WM. SELLERS & CO.

PHILADELPHIA.

IRON AND STEEL-WORKING MACHINE TOOLS

For Railways, Machine Shops and Rolling Mills.



—(ALSO)—
Shafting, Pulleys, Hangers, Couplings, &c.

Were the first parties to design and introduce the BALL and SOCKET
HANGERS, ADJUSTABLE COUPLINGS, and the system of selling Shaft
Pulleys and Couplings by the piece. Will be pleased at any time to give estimates for work in place, in mills
or at our works. Price-Lists and other information given when requested.

BACON Winding Engines,
Furnace Hoists,
Mine Hoists.

(With or without Boilers.)

"Mining Plants," Concentrating Works, and Dredg-
ing Machinery Furnished Complete.

COPELAND & BACON,

85 Liberty Street, New York.

References: { Croton Magnetic Iron Mines, Brewster's, N. Y.
Crown Point Iron Co., Crown Point, N. Y.
Belvidere Iron Co., 32 Broadway, N. Y.
Sea Island Chemical Co., Beaufort, S. C.

**THE NATIONAL CHUCK**

WARRANTED

THE BEST CHUCK IN THE MARKET.

MANUFACTURED BY

THE **National Mfg. Co.**

MANUFACTURERS OF

Combination, Universal
and Independent
LATHE CHUCKS.



NEW HAVEN, CONN.

THE MIDVALE STEEL CO.**TIRES and AXLES**

OF EVERY DESCRIPTION.

TOOL-
AND
MACHINERY STEEL



STEEL.
AND
GUN

CRUCIBLE AND OPEN HEARTH STEEL.

Works & Main Office:

Nicetown, Philadelphia, Pa.

BRANCH OFFICE:

333 Walnut St., Philadelphia, Pa.

The Babcock & Wilcox Water Tube Boilers.

BRANCH
OFFICES:

50 Oliver Street,
Boston.

32 N. 5th St.,
Philadelphia.

46 Fourth Ave.,
Pittsburg.

54 Carondelet
St., N. Orleans.

64 W. Third St.,
Cincinnati.

BRANCH
OFFICES:

707 Market St.,
St. Louis.

64 S. Canal St.,
Chicago.

561 Mission St.,
San Francisco.

San Ignacio,
No. 50, Havana,
Cuba.

107 Hope Street,
Glasgow,
Scotland.



Manufactured by the **BABCOCK & WILCOX CO., 30 Cortlandt Street, NEW YORK.**

SAML. G. B. COOK & CO., HARDWARE

MANUFACTURERS' AGENTS

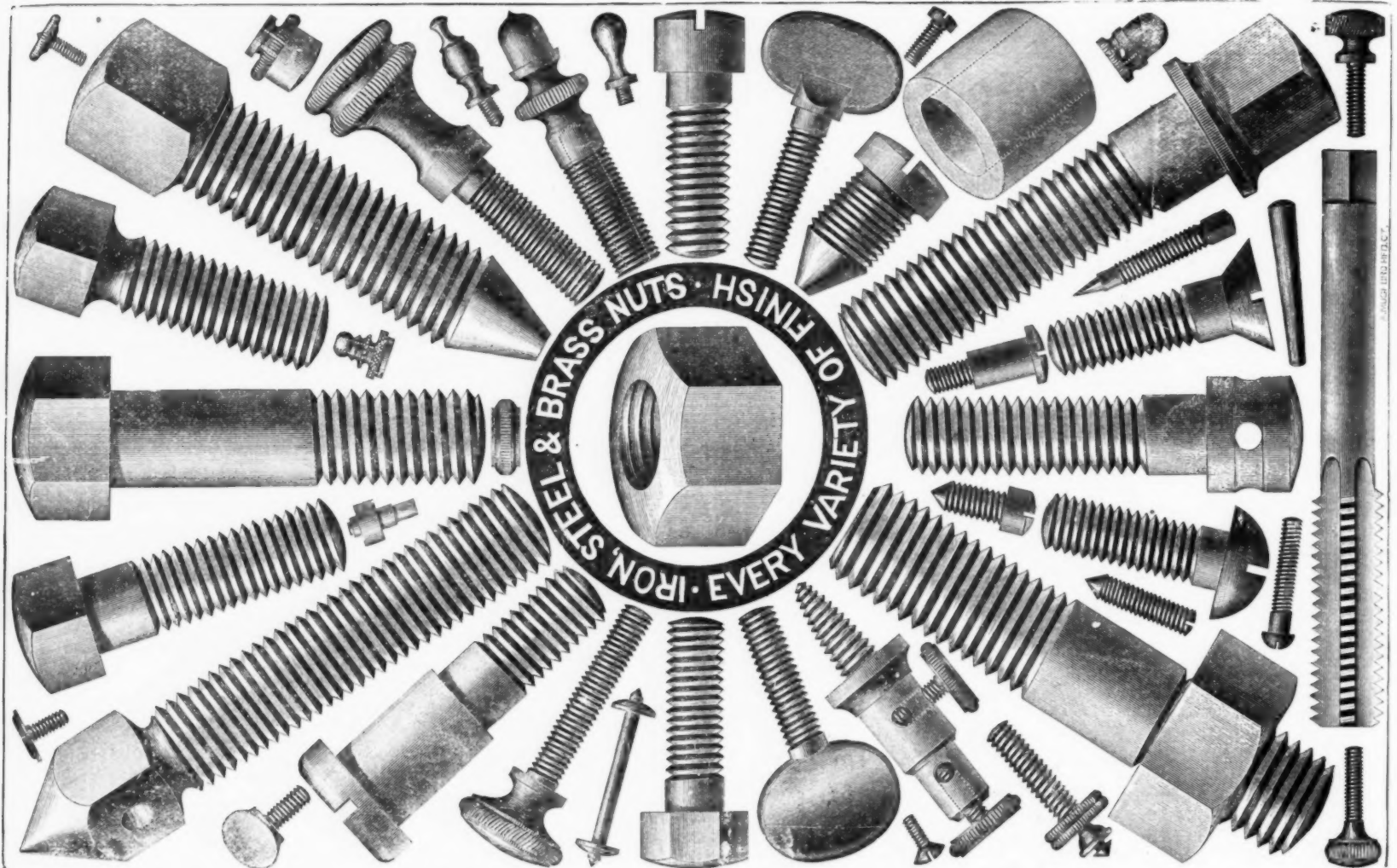
63, 65, 67 and 69 German St., BALTIMORE, MD.

AGENTS FOR

T. V. Allis Mfg. Co.—Buckthorn Wire.
American Screw Co.—Screws, Rivets, Bolts, etc.
Branford Lock Works.
Boss Molasses Gates.
Carr & Crawley.—Shelf and Carriage Hardware.
Lancaster Bolt Co.—Eagle Carriage Bolts.
Lawson & Brenizer.—Hay and Manure Forks.
Meriden Britannia Co.—Rogers Bros.' At Plated Goods.
Northwestern Horse Nail Co.
Nicholson File Co.
Naugatuck Cutlery Co.
Globe Horse Nail Co.

Clark Hardware Co.—Spring Butts, Screen Frames, etc.
Cowles Hardware Co.—Geers, Butts, Screw Drivers, etc.
H. Chapin's Sons.—Rules, Levels, Gauges, etc.
Clark Bros. & Co.—Bolts.
Essex Horse Nails.
A. Field & Sons.—Tacks, Finishing Nails, etc.
Hubbard, Bakewell & Co.—Lippincott Axes, Saws, Shovels and Hoes.
Holroyd & Co.—Stocks and Dies.
Henry W. Kipp.—Hammers.
Klein, Logan & Co.—Picks, Mattocks, Sledges, etc.
Kimball's Patent Shovels and Spades.
Lockwood Steel Hoes.

Peck Bros. & Co.—Brass Cocks.
Payson Mfg. Co.—Building Hardware.
Patton Mfg. Co.—Enamelled and Tin'd Hollow Ware.
Roy & Co.—Strap and T Hinges and Wrought Butts.
Saranac Horse Nail Co.
Scott Mfg. Co.—Peach and Apple Pearlers, etc.
George M. Scott.—Blacksmith Bellows.
Wilson's Mfg. Co.—Coffee Mills, Vises and Ship Hardware.
Walker's Horse and Mule Shoes.
International and Pimlico Brand of Horse Nails, Foreign and Domestic Hardware, Cutlery, Chains, Pistols, etc.



The Hartford Machine Screw Company, Hartford, Conn.

—MANUFACTURERS OF—

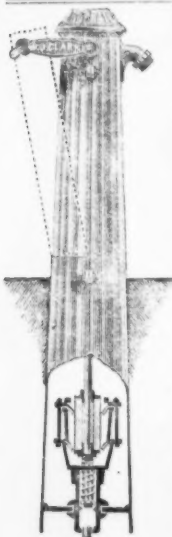
Hexagon, Square, Round or Fillister Head Cap Screws, Oval Point and Cupped Point Set Screws, Collar Screws, Hanger Screws, Stud Bolts, Studs and Rolls.

Sewing Machine Screws, Gun Screws, Clock Screws and Trimmings, Piano Screws and Trimmings, Shear, Thumb and Watch Screws, Metal Dowel Pins for Pattern Work, Taper and Straight Pins of all Sizes, Taps and Reamers to match. Telegraph, Electrical and Optical Work. All kinds of Fancy Turned Metal Work. Many of the above varieties we carry in stock.

Small Screw Tools a Specialty.

Cheap Rotary Pumps for Supplying Machine Tools with Oil, Soda Water, &c.

The attention of Model Makers, Machine Builders and Buyers of Machine Screws is called to the fact that we carry in stock a great variety of Milled Machine Screws, including all Standard Sizes, with Taps to match. By Referring to our Stock, much Time and Expense may be saved. PRICES Reasonable. Send for Lists.



W. J. CLARK & BRO.

Manufacturers of

Hydrants.

These Hydrants are made of the best material, and are guaranteed to be entirely non-wasting and non-freezing. The works of these Hydrants can be taken out and repaired without breaking the ground. Send for circular.

38 N. Holliday Street,
BALTIMORE, MD.



Adapted for Warehouses, Stores, Factories, Hotels, Public Institutions, and every place where merchandise, &c., is transferred from one story to another.

JAMES BATES, Patentee,
Nos. 1, 3 & 5 President Street, BALTIMORE.

Bates' Hand Elevators.
Patented April 18, 1871. Reissued July 25, 1876.
OVER 6,000 IN USE.

1837. NOVELTY WORKS. 1883.

JAMES MURRAY & SON,
Machinists and Millwrights

Engines and Boilers, Mills of all kinds, Marine Railways, &c. Improved Clay Tempering Machinery, Steam or Horse Power. Phosphate Machinery, Crushers, Rollers, Mixers, &c., &c.

40, 42 & 44 York Street,
NEAR LIGHT, BALTIMORE.

Repairing of all kinds promptly done.

REUBEN HAINES,
Analytical Chemist,

738 SANSOM ST., PHILADELPHIA.
Water Analysis and Assays of Ores and Minerals.

J. W. LOANE,

13 N. Gay Street, BALTIMORE.

Manufactures and sells at lowest rates

TENTS, AWNINGS, FLAGS

Canvas Horse Covers, Plain and Oiled,
Yellow and Black.

GIVE HIM A CALL. ORDERS OR ENQUIRIES
BY MAIL RECEIVE PROMPT ATTENTION.



Send for Catalogue.
Chandler & Farquhar,
108 Devonshire St.
BOSTON, - MASS.
Tools & Supplies
for all classes
OF MECHANICS AND
MANUFACTURERS.

LAWN MOWERS.	
Acme Buckeye, Easy and Excelsior, new list...	dis 40 %
LOCKSMITHS.	
Linen Fish.....	dis 25 & 10 %
Wire Clothes, Galvanized, 100 feet.....	dis 33.00
DOOR LOCKS, ETC.	
Bradford.....	dis 40 %
Norwalk.....	dis 40 %
Norwich.....	dis 40 %
P. & F. Corbin.....	dis 40 %
Russell & Erwin.....	dis 40 %
Mallory, Wheeler & Co.....	dis 40 %
Padlocks—Russell & Erwin.....	dis 40 %
Mallory, Wheeler & Co.....	dis 40 %
Norwich Lock Manf. Co.....	dis 40 %
Wm. Wilcox & Co.....	dis 40 %
Wm. Wilcox & Co's Plate Locks.....	dis 40 %
Vale Lock Manf. Co's "Standard".....	dis 40 %
Romer's.....	dis 40 %
Conestoga.....	dis 40 %
Scandinavian, "Norwich".....	dis 40 %
MALLETS.	
Penfield Block Co., Apple, Hickory and Lignumvitae.....	dis 30 %
MEAT CUTTERS.	
Dixon's (P. S. & W.) Nos. 1, 2, 3, 4.....	dis 35 %
Perry's, Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.....	dis 35 %
Woodruff's (P. S. & W.) Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.....	dis 35 %
Hales'.....	dis 35 %
Kieser's No. 55.....	dis 40 %
Kieser's Gem.....	dis 40 %
Kieser's No. 82.....	dis 40 %
Kieser's Monarch.....	dis 40 %
Beef Shaver, (Enterprise Manf. Co.).....	dis 40 %
MOLASSES GATES.	
Stebbins Patterns.....	dis 70 & 10 %
Stebbins Genuine.....	dis 67 & 10 %
Stebbins Tinned Ends.....	dis 40 & 10 %
Chase's Hard Metal.....	dis 50 & 10 %
Self-Measuring, (Enterprise).....	dis 20 %
Lincoln's Pattern.....	dis 60 & 10 %
Weed's.....	dis 15 %
NUTS AND WASHERS.	
Square Nuts.....	8 c off list.
Hexagon Nuts.....	8 1/2 c off list.
Washers.....	7 1/2 c off list.
OILERS.	
Zinc and Tin.....	dis 60 & 10 %
Brass and Copper.....	dis 50 %
Malleable (Hammer's).....	dis 45 %
PINKING IRONS.	
Per dozen.....	75 cts. net
PLAITING MACHINES.	
Astor Plaiting Machine.....	each \$15, dis 20 %
Crown Plaiting Machine.....	dis 25 %
6 in., \$6; 10 in., \$8 each.....	
PLANES AND PLANE IRONS.	
Bench, First Quality.....	dis 20 %
Bench, Second Quality.....	dis 25 %
Molding.....	dis 15 %
Rail's (Stanley R. & L. Co.) New list, Jan. 1879.....	dis 20 & 10 %
The Stanley (S. R. & L. Co.) new list, January 1879.....	dis 20 & 10 %
Bailey's.....	dis 20 & 10 %
Plane Irons, Auburn Tool Co.....	\$5.50 to 10
Plane Irons, Ohio Tool Co.....	dis 20 %
Plane Irons, Sandusky Tool Co.....	dis 20 %
PLIERS AND NIPPERS.	
Button's Patent.....	dis 33 1/2 %
Hall's Pat. Compound Lever Cutting Nippers, No. 2, 5 in., \$13.50; No. 4, 7 in., \$21.....	dis 25 %
Gas Pliers.....	dis 25 %
PLUMBERS AND LEVELS.	
Disston's.....	dis 40 %
Stanley R. & L. Co.'s Pat. Adjustable.....	dis 65 & 10 %
Stanley R. & L. Co.'s Non-Adjustable.....	dis 65 & 10 %
Chapin's Patent Adjustable.....	dis 65 & 10 %
Chapin's Non-adjustable.....	dis 65 & 10 %
Standard Rule Co.'s Non-Adjustable.....	dis 65 & 10 %
Standard Rule Co.'s Adjustable.....	dis 65 & 10 %
Pocket Levels.....	dis 65 & 10 %
SLIDING DOORS, WROUGHT IRON.	
Sliding Door, Wrought Wrt. Iron.....	dis 30 %
Sliding Door, Iron, Painted.....	dis 35 %
Barn Door.....	dis 35 %
Per 100 feet.....	\$2.60 3.60 5.60—dis 10 %
B. D. for N. E. Hangers—	
Small.....	dis 10 %
Med. Large.....	dis 20 %
Per 100 feet.....	dis 30 %
RIVETS.	
Iron and Tinned, new list, Dec. 10, 1881.....	dis 40 %
In bulk, new list, Dec. 10, 1881.....	dis 40 %
Copper Rivets and Burrs.....	dis 50 & 10 %
Nos. 7 8 9 10 11 12 13 14 15.....	dis 40 %
lb. 49c. 50c. 52c. 54c. 56c. 58c. 60c. 62c. 70c.....	
RIVET SETS.	
Rivet Sets.....	dis 40 %
RODS.	
Stair, Brass.....	dis 25 %
Stair, Black Walnut.....	dis 60c. per doz.—net
RULES.	
Boxwood.....	Ivory.....
Chapin's.....	dis 75 %
Standard.....	dis 40 & 10 %
Stanley.....	dis 40 %
Stevens & Co.....	dis 70 & 10 %
Stevens & Co. Miscellaneous.....	dis 50 %
SAD IRONS.	
Self-Heating, Charcoal.....	dis 20 %
Mrs. Pott's Irons.....	dis 35 %
Enterprise Star Irons, new list, July 20, '82.....	dis 35 %
Comb'd Fluter and Sad Iron.....	dis 15 %
Common Sad Irons.....	dis 25 %
SAND PAPER.	
Baeder & Adamson's Flint, 000 to 1 1/2.....	\$4.50 per r.m.
Baeder & Adamson's Flint, 2, 2 1/2 & 3.....	5.00 per r.m.
Baeder & Adamson's Flint, Assort'd 4.75 per r.m.....	
Baeder & Adamson's Star.....	3.75 per r.m.
Baeder & Adamson's Emery.....	\$6.50 to 11.50
J. Bartle's Sand, Flint and Emery Paper.....	dis 30 & 5 %
SASH CORD.	
Common.....	dis 14c. net
Patent.....	dis 17c. to 18c. net
Silver Braided Lake Hemp.....	dis 15c. net
Silver Braid, Lake White Cotton.....	dis 15c. net
Silver Braided Lake Drab Cotton.....	dis 15c. net
Silver Lake Cable Laid, Bengall Unbleached Hemp, 17 cts.....	dis 10 %
Russian Hemp, 10 cts.....	dis 10 %
Italian Hemp, 34 cts.....	dis 10 %
SASH WEIGHTS.	
Solid Eyes, in 500-lb. lots and over.....	dis 1 1/2 c. net
SAUSAGE STUFFERS OR FILLERS.	
Miles.....	dis 20 %
Perry.....	dis 25 %

SILVER PLATED HOLLOW WARE.	
Wm. Rogers Manf. Co.....	dis 40, 15 & 5 %
Meriden Britannia Co.....	dis 33 1/2 %
SPOONS.	
Britannia.....	dis 60 & 10 %
Tinned, Iron, Table and Tea.....	dis 65 %
Tinned Iron Basting.....	dis 65 %
German Silver.....	dis 40 %
STONE.	
Hindustan No. 1, 5c.; Axe, 8c.....	net
Sand Stone.....	dis 33 1/2 & 10 %
Washita Stone.....	dis 16c. net
Washita Stone, Slips.....	No. 1, 1 lb., 45c. net
Arkansas.....	\$1.50 per lb. net
SQUARES.	
Steel.....	dis 50 %; full cases, dis 50 & 10 %
Iron.....	dis 50 %; full cases, dis 50 & 10 %
Nickel Plated.....	add \$2.50 & 3/4 per doz. net.
Try Square and T Bevels.....	dis 50 & 10 %
Disston's Try Square and T Bevels.....	dis 40 %
TACKS, BRADS, & C.	
New List, Sept. 1, 1882.	
Tinned Swedes Tacks.....	dis 30 %
Tinned American Tacks.....	dis 30 %
Swedes Tacks, all kinds.....	dis 30 %
American Cut Tacks.....	dis 30 %
Copper Tacks and Nails.....	dis 30 %
Hungarian Nails.....	dis 35 %
Gimp and Lace Tacks.....	dis 30 %
Gimp and Lace Tacks, Tinned.....	dis 30 %
Finishing Nails.....	dis 25 %
Trunk and Clout Nails.....	dis 25 %
Common and Patent Brads.....	dis 20 %
Basket Nails.....	dis 20 %
Brush Tacks.....	dis 20 %
Leathered Carpet Tacks.....	dis 20 %
Cigar Box Nails.....	dis 20 %
Chair Nails.....	dis 20 %
Double-pointed Tacks.....	dis 40 & 5 %
TAP BORERS.	
Common and Ring.....	dis 20 %
Ives' Tap Borers.....	dis 15 & 10 %
Enterprise Mfg. Co.....	dis 25 %
TABACCO CUTTERS.	
Enterprise Mfg. Co (Champion).....	dis 25 %
Wood Bottom.....	dis 10c. net, dis 40 & 5 %
All Iron.....	dis 40 %
Wilson's.....	dis 35 %
THERMOMETERS.	
Tin Case.....	dis 75 & 10 %
Storm Glasses.....	\$3.25 per doz.
TOR CALS.	
Winsted.....	dis 10c. net
TRAPS.	
Game, Newhouse.....	dis 35 %
Game, Oneida Pattern.....	dis 60 & 10 %
Game, Blake's Patent.....	dis 40 & 10 %
Mouse, Wood, Choker.....	dis 10c. net
Mouse, Round Wire.....	dis 10c. net
Mouse, Wire.....	dis 10c. net
Mouse, Catch-em-alive.....	dis 10c. net
Cyclon Mouse.....	dis 75 cts.
Ideal Mouse.....	dis 10c. net
Rat, "Decoy".....	dis 10c. net
Delusion Mouse, per doz.....	\$1.50
TROWELS.	
Lothrop's Brick and Plastering.....	dis 25 %
Reed's Brick and Plastering.....	dis 15 %
Disston's Brick and Plastering.....	dis 20 %
Clement & Maynard's.....	dis 20 %
Worral's Brick.....	dis 20 %
Brades & Walby's.....	dis 20 %
Garden.....	dis 55 %
TRUCKS (WAREHOUSE, & C.)	
Handy Truck.....	\$2.50 net
Penfield Block Co., list, 1882.....	dis 10 %
Peerless, with Cogs, No. 3.....	54.00
Peerless, with Cogs, No. 4.....	66.00
Eureka, No. 2.....	dis 42.00
VICES.	
Solid Box—Wilson's.....	dis 50 %
" Trenton.....	dis 45 %
" Iron City Tool Works.....	dis 50 %
Bench—Wilson's.....	dis 45 %
" Trenton.....	dis 25 %
" Parker's.....	dis 20 %
" Prentiss.....	dis 25 %
" Bonney's.....	dis 35 %
Well Wheels.....	dis 60 & 10 %

COLUMBIA
THE POPULAR STEEDS
OF TODAY
COLUMBIA TRICYCLES
FOR LADIES
—AND—
GENTLEMEN
ILLUSTRATED CATALOGUE
SENT FREE
THE POPE MFG. CO.
597 WASHINGTON STREET
BRANCH HOUSES
12 WARREN ST. NEW YORK
178 MICHIGAN AVE. CHICAGO
MASS.

—THE—
Sigourney Drill.
Perfect, Sensitive and
Strong.
Interchangeable, and
has a Capacity
unequalled.
MADE BY
The Sigourney Tool Co.
MANUFACTURERS OF
Special Machinery and Tools
OF THE FINEST QUALITY
HARTFORD, - CONN.
Baltimore Agents, MORTON,
REED & Co., 58 German Street.
Send for Circular.

THE WM. ROGERS' MFG. CO. Silver-Plated Table Ware,

We manufacture a complete line of Silver-Plated Table Ware of all descriptions, and should be pleased to send our Price-List or Catalogue to any reliable dealer.

We guarantee every piece of our ware to be just as represented.

Our guarantee card accompanies each box of goods.

Our prices are as low as any FIRST-CLASS GOODS, and our goods are equal to any made in the country.



Trade Marks:
Wm. Rogers & Son.
—AND—
1865 Wm. Rogers Mfg. Co.
P. O. Address, Drawer 30,
HARTFORD, CONN.

The Wm. Rogers Manufact'g Co.

MANUFACTURERS OF

Superior Electro-Silver Plated Knives, Forks, Castors, Cake Baskets, &c.

Drawer 30, HARTFORD, CONN.



No. 551.
Silver, . . . each, \$1.50



No. 552.
Silver, . . . each, \$1.35



No. 703. Height, 7 1/4 inches.
Gold Lined Butter and Salt, . . . \$4.75
Gold Lined Butter, Salt and
Napkin Ring, . . . 5.50

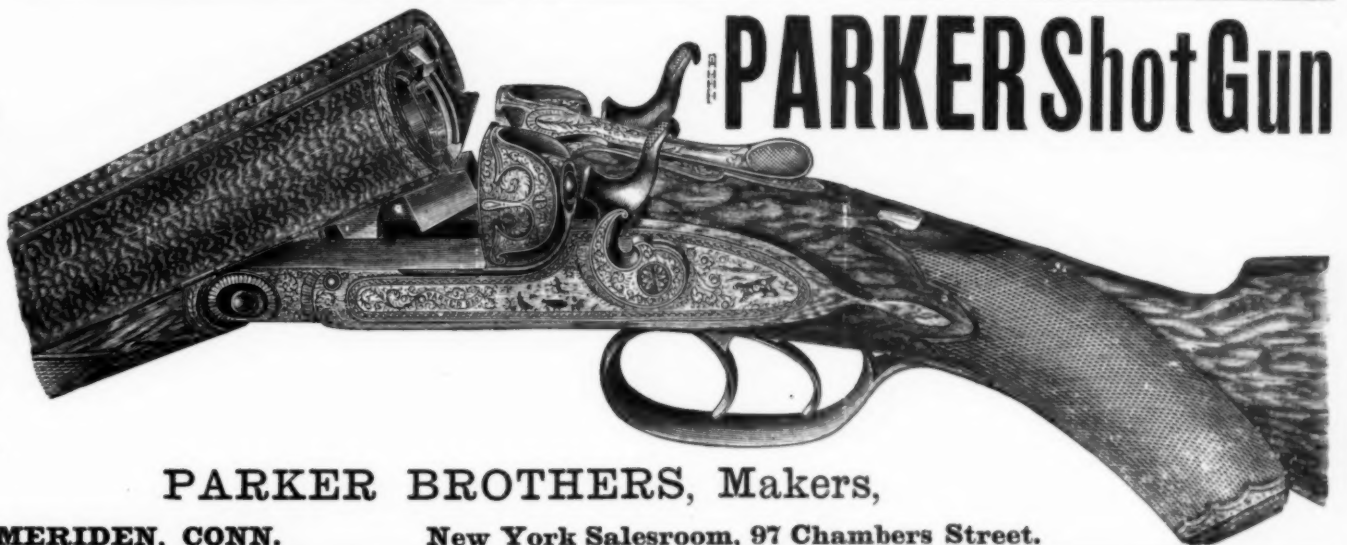


No. 550.
Silver, . . . each, \$1.50



No. 557.
Silver, . . . each, \$1.35

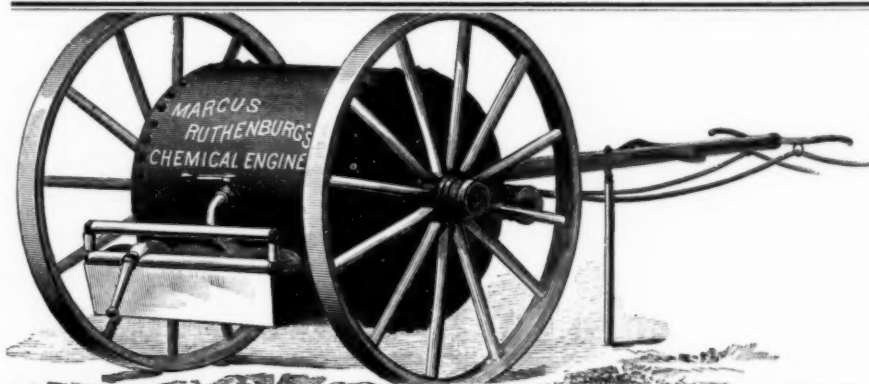
Report of the International Gun Trial, held at Bergen Point, N. J., April 3, 1884. Extract from *Turf, Field and Farm* reporting the same: "The Parker Gun, our prominent home manufacture, won the admiration of all by its fine shooting qualities. It registered in both the 10 and 12-bore classes; the greatest number of pellets in the 30-inch circle, and therefore must be awarded the palm for pattern."



PARKER BROTHERS, Makers,

MERIDEN, CONN.

New York Salesroom, 97 Chambers Street.



THERE IS NOT a town, village or large mill in the land that can afford to be without the protection from fire afforded by this Chemical Engine. Always ready for instant use. Simple, substantial and efficacious. Write for circulars to

THE RUTHENBURG
Automatic Fire Extinguishing & Engineering Co.

64 West Third Street, Cincinnati, O.

MARCUS RUTHENBURG, Manager.

STEAM ENGINES and BOILERS

2 to 2,000 Horse-Power, for all kinds of work. Also, Wood and Iron-Working Machinery. All Machinery guaranteed.

W. E. CURTISS, 1425 Filbert St. PHILADELPHIA.

TO STEAM USERS.

I will Remove and Prevent Scale in any Steam Boiler, or make no charge. My Remedy will also Neutralize the most destructive waters, and prevent

GROOVING, PITTING, AND WASTING OF IRON. Which causes so many Boiler Explosions. A book on "Care and Management of Steam Boilers." Address **GEO. W. LORD, 316 Union Street, PHILADELPHIA, PA.**

A detailed black and white illustration of a Dietz-Will & Co. Cincinnati gas engine. The engine is mounted on a large, heavy-duty cast-iron base. It features a prominent flywheel with a five-spoke design, a large gear, and a smaller gear. The cylinder and piston assembly are visible at the top. The text "DIETZ-WILL & CO" and "CINCINNATI O. U.S.A." is inscribed on the base.

Huginin Window Balance,
Hemacite Knobs,
North's Blind Awning Fixtures,
Wilber's Barn Door Hangers,
Raymond's Lead Weights,
Dudley Blind & Shutter Worker.

SUNDRIES.	
Benzine.....	7 gal., 8@10c
Turpentine.....	7 gal., 33 1/2 c
Chalk.....	1 1/2 c
Chalk.....	1 1/2 c
Dryer patent Am'n.....	ass'd cans, 8c; keg, 7c
Frostings.....	40c
Glue, white.....	10 @ 36c
Glue, sheer.....	12 @ 36c
Glue, ordinary.....	9 @ 12c
Glaizers' Points, zinc.....	12
Gum, Copal.....	36c
Gum, Copal.....	36c
Gum, Damar.....	25c

DASHES.

Leather, new list.....dis 5 ¢

IRON WORKING MACHINERY

H. PRETISS & CO.
42 Dey Street, New York.

**UPRIGHT DRILL
CUT-OFF TOOL
TAP-DRILL GAUGE**

*Stirling Ellworth
Boston
Mass.*

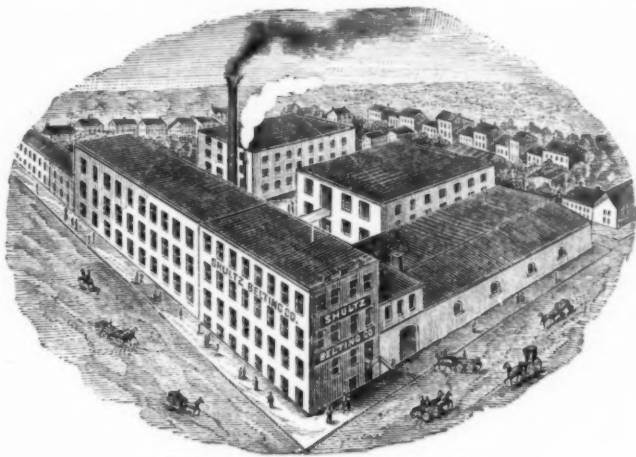
TRADE NOTES.

About Belting.

Economy leads to wealth, and is sensible. But there is a difference between niggardness and economy; the former is a short-sighted and miserable, senseless policy, the latter is commendable and wise. It is economy to spend money, oftentimes, on the principle that "a stitch in time saves nine." The best of everything is the cheapest in the end.

Now we do not mean to imply that the Shultz Belting Company charge the highest price for their goods, but we desire to impress our readers with the fact that that most excellent and long-established company does make as good leather belting as may be found anywhere. Their belting is made of leather; not tanned through and through, but only upon the surface; this process, which, by the way, is patented, renders the belting pliable, and causes it to hug the pulley. At the same time this belting will not stretch like many other belts. It is adapted to the largest or to the smallest belts; also to the most rapid running machinery.

This concern also makes a lace leather hide which is not tanned, and which is claimed to be stronger and more durable than any other. They also manufacture Picker leather and belt grease, which they guarantee,—and a guarantee from the Shultz Belting Company means just what it says. It is



SHULTZ BELTING CO., ST. LOUIS, MO.

one of the strongest in the country, and has a reputation second to none. The officers and directors are well-known business men of St. Louis, and their business career is unimpeachable. Jno. A. J. Shultz is the president, Wm. P. Mullen, vice-president, and B. C. Alford, secretary.

The illustration on this page gives an idea of the immensity of their plant. The buildings are solid and substantial, and contain all the modern machinery used in concerns of this kind. Everything is kept in the best of order, every spot utilized, and the method used in conducting successfully and smoothly so large a concern is admirable.

The buildings and office are located on Bismark and Barton streets, St. Louis, Mo., and occupy very nearly a whole block. Their advertisement, which may be found upon the first page of the MANUFACTURERS' RECORD, will give some further information. Write to them for catalogues and price-lists, then give them an order, a trial, and you will be convinced that in their statement they do not exaggerate. Their samples are cut off their manufactured goods; not made especially for samples.

THE Safety Steam Generator Co., 68 Warren street, New York, write: "The Zell Safety Boilers will be built by the Pioneer Iron Works exclusively for this company hereafter, who will make a specialty of this boiler and boiler attachments. Capital \$25,000 (paid up)."

ATTENTION is called to the advertisement in this issue of the MANUFACTURERS' RECORD of "Coal Land for Sale." The property, which is offered for a short while only, can be purchased now at an exceptionally low price. It offers an opportunity rarely equalled for those who desire to purchase, either as an investment with the certainty of a rapid advance in value, or for immediate development. It is located only a few miles from Birmingham, the great coal and iron centre of Alabama, and is well worth investigation by capitalists seeking a very profitable investment, and by any who desire to engage in coal mining, &c.

A DISPATCH from Birmingham, Ala., says: "Mr. Samuel Thomas, the great Pennsylvania iron king, who owns thousands of acres of valuable coal and iron lands in this country, is expected to visit this city in a few days. His visit at this particular time is quite significant, as he wrote to the New York Iron Age a few months ago that he intended to visit Birmingham in a short while, and would, during that visit, decide whether he would erect extensive works there."

It is currently reported on the streets that the Sloss Furnace Company will begin the erection of another 125 ton furnace this spring. These iron masters are as silent as

the heart of their immense ore beds concerning what they propose doing, and it is next to impossible to obtain accurate information of their movements."

THE Shenandoah Valley and the Norfolk & Western Railroads, which have done so much for the development of Virginia, deserve much praise for their lately-issued work on the "Mineral Wealth of Virginia," by Prof. A. S. McCreath. It is a most excellent book, that will undoubtedly be of great service in attracting attention to the remarkable mineral resources of Southwest Virginia.

THE Columbus Iron Works Co., Columbus, Ga., are manufacturing steel car wheels for railroads in Georgia and Alabama.

SMITH'S "Diagram of Parliamentary Rules" is a valuable publication for those who preside over or take part in the proceedings of deliberative bodies. The author, by a happy device has brought the whole perplexing code of parliamentary laws into such brief space and simple shape, that any point of order can be determined at a glance, and without turning a page. The book is published by the Review and Herald Publishing Co., Battle Creek, Mich.

If you are not already a subscriber to the BALTIMORE MANUFACTURERS' RECORD, send us \$3 and you will receive it regularly for one year or six months for \$1.50.

THE States, New Orleans, La., describing a new furnace, the invention of Dr. B. F. Smith, says: "The furnace was found to be a combination of the five furnaces that are in common use, consisting first of a cupola or smelter, in which the ores are run into pig iron; second, a reverberator, in which the melted pig metal is refined into bar iron; third, retorts or ovens, into which raw coal is placed and turned into coke and common lighting gas, fourth, a roaster, in which the ores are prepared for smelting, and fifth, a steam generator. The manner of working was as follows: Four hundred and thirty-two pounds of iron ore, 87 pounds of limestone and 147 pounds of coke were put into the smelter, and in 85 minutes there came out 170 pounds of iron, pronounced by experts to be No. 1. During this time the waste gasses and heat were making steam to run the machinery, roasting the ores and making coke for further charges, and also making gas at the rate of 15,000 feet daily. All this was being done in a small experimental furnace 13 feet long, 8 feet wide and 8 feet high, which cost less than \$1,500. The experiments were made by Mr. R. C. Hampton, a practical iron maker of thirty years' experience, and Mr. John N. Main, an experienced builder of gas works, assisted by Mr. B. Thoens, master engineer of Leeds' foundry.

From these parties it was learned that a practical working furnace, capable of making ten tons of pig iron and 100,000 feet of gas, with the land, buildings, machinery, etc., could be put up for less than \$25,000."

Business Chances.

For the purpose of making the MANUFACTURERS' RECORD a still more valuable medium of communication between its readers North and South, we will publish, FREE OF CHARGE, short advertisements, not exceeding 40 words, from those in the South who have mills, factories, manufacturing sites or water-power for sale, capital wanted for industrial enterprises, &c., &c.; while readers in other sections who desire to engage in manufactures at the South are also invited to use these columns, without cost, either in seeking information regarding the advantages and special claims of different localities, or for asking about good openings for men and money. This department is also free for Southern manufacturers who wish to advertise for mill managers, superintendents, engineers, &c.

In corresponding with any of these advertisers please mention the Baltimore Manufacturers' Record.

GAS WORKS.—Parties having a good franchise for such, can find a man of experience and some capital for building one of illumination superior to coal or water gas. L. Duvinage, 547 Lafayette avenue, Brooklyn, N. Y.

THE OWNERS of a cotton mill in the South want an experienced man to take an interest in the mill, and take charge of same as manager. The officers and other stockholders have had no experience in running cotton factories, and besides, their time is so fully taken up with other business, that they can not give personal attention to management of the finances or to the sale of the product. The mill is splendidly located, and has numerous advantages for manufacturing at lowest cost. Address A. C. M., care MANUFACTURERS' RECORD.

THE ADVERTISER desires to locate in some Southern town and engage in the manufacture and sale of bottled soda and mineral waters. Would like to be furnished with the names of places needing such an industry, with some information as to their attractions and advantages. Address SODA, care MANUFACTURERS' RECORD.

WANTED.—Partner with \$2,000 or more to engage in the manufacture of furniture. Factory buildings complete; trade established; lumber convenient; shipping point good; railroad runs through the yard; water also. The advertiser will go in as a partner, furnishing \$500 towards capital, or will work on salary in former capacity (superintendent) or as a hand. Address J. W. G., care MANUFACTURERS' RECORD.

WANTED.—A partner with capital to join me in changing a flour mill (2 pair burrs, machinery in good order, over-hot wheel 24x7 feet,) to make "New Process" flour; or I will sell the mill upon reasonable terms. Location, at the junction of the New River Railroad with the Norfolk & Western Railroad, in a fine grain, grazing and mineral section. Address G. C. Wharton, New River Depot, Pulaski Co., Va.

PARTY who will furnish \$5,000 to build side track and equip coal mine can have half interest in one of the best and most accessible tracts of coal lands in the Warrior fields. Two hundred acres on through line of railroad, 3 feet vein can be worked from drift. Natural drainage. No machinery needed. Mine already opened. Coal tested equal to Pittsburgh for steam or gas. Address Box 100, Warrior, Ala.

A GOOD LOCATION for light manufacturing purposes, such as brooms, buckets, chairs, &c., on the N. & W. R. R., Southwest Virginia. One acre of land with water, office, 5 ton wagon scales, and private siding to hold 10 or 12 cars. Will sell at a moderate price or put it in as stock. Address Dixie, care of MANUFACTURERS' RECORD.

WATER POWER.—We have on our place in Marion, Va., one of the finest water powers and situation for factory in Southwest Virginia, immediately on the N. & W. Road, within half mile of the depot, which we will sell cheap to any one who will put a factory on it or will put it in as stock with responsible parties. Look & Lincoln.

I WOULD LIKE to get estimates on steam-wheel boat machinery complete, from good manufacturers. Size of engines from 6 to 10 inch cylinder. C. N. Ledwith, Apalachicola, Florida.

WANTED.—Woolen mill machinery and flouring mill machinery. Want to exchange valuable residence property for them. One set cards and jack and custom card, &c., and mill machinery to grind for custom 300 bushels wheat and some of corn in 10 hours, with cleaning, smutting, purifying and bating attachments. All must be latest improved, and new or good as new, and reasonable price. Address M. Box 10, Pulaski, Tenn.

WANTED.—A partner with \$5,000 or \$6,000 capital to join me in a custom mill to card wool and grind wheat, corn and feed, and run a country barter store. My capital will consist in property adapted to such uses, and will be put in at a low valuation. Address L. M., Box 10, Pulaski, Tenn.

WOOLEN MANUFACTURERS.—The undersigned desires to take the entire management of some good woolen mill in the Southern States, (has had 30 year's practical experience,) or would take charge of the finishing department alone. Address P. M. Smith, Auburn, Mass.

FOR SALE CHEAP.—The entire property of the Danner Land & Lumber Co., consisting of, in part, 3 steam saw mills and about 30,000 acres of pine timbered land. Will sell on easy terms, and will take pay in lumber, if desired, and parties are responsible. For particulars, address J. C. Strong, assignee, Mobile, Ala.

FORTY-THOUSAND dollar cotton mill for sale in South Carolina, for division, containing 500 acres of land, merchant grist and saw mills and gin,—all in good running order. For health and natural advantages not excelled in the South. Address W. L. Morgan, Bros. & Co., Crawfordville, Spartanburg Co., S. C.

FOR TEN THOUSAND DOLLARS will sell a fine water power, with two hundred acres of land in Piedmont E. H. Spartanburg Co., S. C. Health and water unsurpassed in the State. For manufacturing purposes will employ two hundred thousand capital; 150 acres in cultivation. Address S. A. Green, Crawfordville, P. O., Spartanburg Co., S. C.

WANTED.—Purchaser for 2,500 acres woodlands, including thousands of the finest fancy timbers to be had in the United States, such as walnut, white oak, ash, maple, cypress, pine, hickory, &c. Unsurpassed facilities for shipping lumber to market. Address Mrs. A. C. Watts, Laurens C. H., S. C.

WANTED.—Situation as superintendent of cotton factory; now employed in the South; satisfactory reasons for leaving present place; good references. Address N. C., care MANUFACTURERS' RECORD.

WANTED TO PURCHASE.—A set of 40-inch wool cards, a 210-spindle self-operator and picker.—Must be second hand, good as new and very cheap. Address L. M., Box 10, Pulaski, Tenn.

WANTED.—A water power in some Southern State, and men with some capital, to engage with a man of 15 years' experience and some capital in manufacture of sewing machines. A village preferred. Address, W. S., MANUFACTURERS' RECORD, Baltimore, Md.

THE ADVERTISER desires to furnish a part of the capital, and join others in starting an oil mill and an ice factory in some good locality in the South.—Address Columbus, care MANUFACTURERS' RECORD.

FOR SALE LOW.—One-third of the capital stock of \$20,000 in the Tuscaloosa Foundry and Manufacturing Co., who carry on a planing mill, boiler and machine shop and cotton ginning business in one of the best localities in the South. Company free from debt. Reasons for selling; owner must devote his attention to other interest at a distance. A position worth \$1,200 a year awaiting purchaser who understands the planing mill business. Correspondence solicited. R. S. Brodhead, Florence Hotel, Birmingham, Ala.

BERNHARD DIETZ, Manufacturer of Printers' Rollers, and Roller Composition, Factory, cor. Light and Mercer streets, Baltimore. Prices: Composition, (bulk) 30 cents per lb.; for Casting, also, 30 cents per lb. Orders by Mail promptly attended to.

Send to FARMVILLE MANF'G CO.

FOR PRICE-LIST OF

PLOW HANDLES, Beams and Rounds, FARMVILLE, - VA.

IRON ROOFING
SIDING, CEILING,
ARCHES AND LATH.
CINCINNATI
CORRUGATING CO.
CINCINNATI, O.
SEND FOR ILLUSTRATED CATALOGUE.

CORRUGATED

CRIMPED

METALLIC SHINGLES.
IRON ROOFING AND SIDING
—Crimped and Corrugated—
W. G. HYNDMAN & Co.
52 & 54 East Second Street,
CINCINNATI, O.
—FOR—
DWELLINGS, STORES,
SAW MILLS, BARNs,
FACTORIES, SHEDS,
Etc., Etc., Etc.
Send for Circulars and Prices.
Mention this paper.



T. C. SNYDER & CO.
—MANUFACTURERS OF—
IRON ROOFING, SIDING AND CEILING,
(The H. W. Smith Patent is the Best in use.) AND JOBBERS IN
PLAIN, CORRUGATED, CRIMPED, BEADED.
IRON ORE, PAINT, CEMENT,
And Roofers' and Builders' Papers.
—PATENT CALAMINED IRON IN QUANTITIES—A New Thing.—
Coating is indestructible, will not scale, is soft, solders more strongly and is superior to Galvanized Iron or Tin for all purposes. Protected both in body and surface. Circulars, Price-List and Sample mailed at request.
—CANTON, OHIO.—



METALLIC SHINGLES.



\$5.50 per square | **ANGLO-AMERICAN ROOFING CO.**
22 Cliff Street, New York

GUILD & GARRISON,
BROOKLYN, N. Y.
Steam Pumps,
VACUUM PUMPS, AIR COMPRESSORS.
SEND FOR CATALOGUE.

ALWAYS ASK FOR
ESTERBROOK'S
CELEBRATED
STEEL PENS.
PENS
LEADING NUMBERS:
048, 14, 130, 333, 135, 161
For Sale by all Stationers.
The Esterbrook Steel Pen Co.
26 John Street, New York

PORTABLE FORGES | Empire Portable Forge Co
Cohoes, N. Y.
Send for Catalogue.

Hoisting Engines

Of any Power, Double and Single, with



Established 1867.
E. HARRINGTON, SON & CO.
WORKS AND OFFICE,
Cor. N. 15th St. & Penna. Ave., Philadelphia.
Manufacturers of Patent Extension
LATHES,
Iron Planers, Boring Mills, Drills,
and a variety of other MACHINISTS' TOOLS.
Patent Double Chain Screw Pulley Blocks, unrivalled for durability, safety and power.
Patent Double Chain Quick-Lift Hoists, with Brake for quick and easy lowering.
REPRESENTED BY
J. O. MAYNARD, 12 Cortlandt St., New York.
C. E. KIMBALL, 93 Oliver Street, Boston, Mass.
W. H. RICKEY, 116 Main St., Cincinnati, Ohio.
Circulars furnished.



J. H. RATTERMANN, President.
F. G. DUERR, Vice President.
THE U. S. VARNISH CO.
CINCINNATI, - - - OHIO.
258 and 260 Colerain Avenue.
LARGEST VARNISH FACTORY in the WEST.
CHICAGO BRANCH, 47 STATE STREET.
Mention this paper.

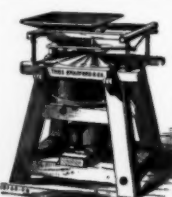
W. L. MERSELDER. MORGAN L. SMITH.
CINCINNATI PATTERN WORKS.
Stove Patterns a Specialty.
Artistic, Architectural and Machine Patterns
Of Every Description Made on Short Notice.
N. W. COR. FRONT & PIKE STS.
Jobbing Promptly Done. CINCINNATI, O.

—ESTABLISHED 1865.—
Steam Boilers
JOHN T. COLEMAN & SONS,
Steam Boiler Works,
Cor. Holliday and Pleasant Sts., Baltimore
Manufacturers of all kinds of Steam and Bath Boilers, Smoke Stacks, Water Tanks, Lard Kettles, &c.
Particular attention given to repairs.

MACHINISTS
and others should examine the merits of our new improved 14x40 inch Screw Cutting Lathe. Price \$175. Descriptive price-list of lathes and tools mailed on application.
SEBASTIAN, MAY & CO.
289 W. Pearl St., Cincinnati, O.



Established 1840.
Incorporated 1884.
The Thomas Bradford Co.,
Successors to
THOMAS BRADFORD & CO.
Manufacturers of the celebrated Bradford's Portable Under Runner Mills, for corn, wheat and middlings. First premium at Cincinnati Industrial Exposition, 1884. Send for illustrated catalogue. Address plainly THE THOMAS BRADFORD CO., 174, 176 & 178 W. Second St., Cin., O.



Sherman Mfg. Co.


JACKSON, TENN.



Manufacturers of the Lovrien Cube Pipe Tongs. Patented 1880 and 1881. The best and cheapest pipe tongs in the world. One pair has a wearing capacity equal to twelve pair of any other tongs. Requires but one-half the number of tongs to do the same work that is required by any other tongs. Every pair warranted. We are the only authorized manufacturers of these tongs in the U. S. We also manufacture Engines, Boilers, Saw Mills, and Saw Mill Machinery, Pulleys, Shafting, Hangers, &c. Correspondence respectfully solicited.

Scribner's Lumber and Log Book.

OVER ONE MILLION SOLD. Most complete book of its kind ever published. Gives measurement of all kinds of Lumber, Logs, Planks, Scantling; cubical contents of square and round Timber; hints to lumber dealers; wood measure; speed of circular saws; care of saws; cord-wood tables; falling trees; growth of trees; land measure; wages, rent, board, interest, stave and heading bolts, etc. Standard book throughout the United States and Canada. New illustrated edition 1882. Ask your bookseller for it. Sent post-paid for 35 cents.
G. W. FISHER, Box 238, Rochester, N. Y.



The Seibert Cylinder Oil-Cup Co.

SOLE MANUFACTURERS OF

Oil Cups for Locomotives, Marine and Stationary Engine Cylinders, and the Seibert and Gates' Patents, with Sight Feed.
Take Notice.
The "Sight Feed" is owned exclusively by this company. See Judge Lowell's decision in the United States Circuit Court, District of Massachusetts, Feb. 23d, 1882.—All parties are hereby notified to desist the use, manufacture or sale of INFRINGING CUPS, as we shall vigorously pursue and prosecute all infringers.



THE SEIBERT CYLINDER OIL-CUP CO.
53 Oliver St., Boston, Mass.

ENGRAVING DIRECT FROM PHOTOGRAPH.
NO DRAWING REQUIRED.
NO HAND WORK NECESSARY.
SEND CHEAP, ARTISTIC.
FOR PARTICULARS CROSSCUP & WEST ENG. CO.
702 CHESTNUT ST. PHILA. PA.

THE BRADSTREET Mercantile Agency

HAS NOW BEEN
Under its present successful management for the past seven years,
And during that time its business has more than trebled, while its facilities have proportionately increased.
No expense is considered too great in obtaining and applying to the conduct of the business all possible improvements. With its present system for obtaining and promulgating information, this Agency is justly regarded by its patrons as authority on all matters affecting commercial credit. Its ramifications are greater and its business larger than any similar organization in the world conducted in one interest and under one management.
You are respectfully invited to investigate, and if in need of an Agency, to test its ability to serve you.
CHAS. F. CLARK, President.
Baltimore Office,—American Building,
H. KERSHAW, Supt.

TAP & DIES
VISES
CHUCKS
DRILLS
SCREWS
MACHINE
LATHES
FILES
STEEL
STOCKS
SUBS

TOOLS for Machinists, Amateurs, Jewellers, Model Makers, Blacksmiths, Carpenters, Coachmakers, etc.
Send 20 cts. for new Metal Worker's Catalogue, 300 Pages.
Wood Worker's Catalogue free.
TALLMAN & McFADDEN, Philadelphia, Pa.

ESTABLISHED

POOLE & HUNT,

—1851—

Founders and Machinists.

POOLE & HUNT'S

LEFFEL * TURBINE * WATER * WHEEL,

Prices as Low as any other First-Class Wheel.



Machine * Moulder

MILL GEARING.

Our plant for the production of MACHINE-MOULDED MILL GEARING is unequalled in the country, and we are prepared to fill orders with dispatch and at GREAT SAVING IN COST OF PATTERNS.

Shafting, Pulleys, HANGERS, PEDESTALS.

SHAFTING, PULLEYS, HANGERS and COUPLINGS, of latest and most approved designs.

N. B.—Shipping facilities the best in all directions.

Send for Pamphlet. Send for Price-List.

List of our Gear-
ing Mailed on
Application.

POOLE & HUNT, BALTIMORE, MD.

STANDARD COAL CO.

MINERS AND SHIPPERS OF

SCREENED LUMP COAL for steam and machinery purposes a specialty.
For prices and freights, address

E. E. McCROSKEY, Prest.

JELLICO MOUNTAIN COAL 56 Clinch Street, - - - Knoxville, Tenn.

NEW YORK. ♦ CINCINNATI. ♦ SAN FRANCISCO.

AULT & WIBORG,

—MANUFACTURERS OF—

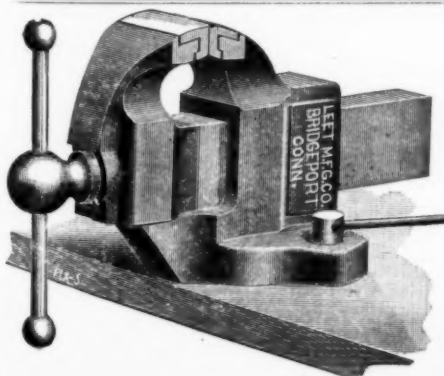
BLACK * AND * COLORED * PRINTING * INKS,

Lithographic Inks and Varnishes,

CINCINNATI, OHIO.

Eastern Branch, 21 and 23 Ann Street, - - - NEW YORK.

—R. H. C. VALENTINE, Manager.—

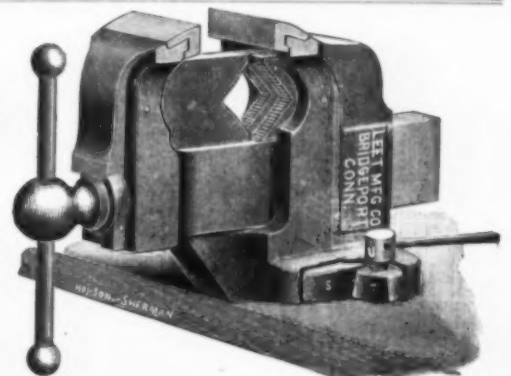


THE LEET M'F'G CO.'S Patent Sliding Jaw Bench Vises.

WITH SWIVEL BOTTOM.

These Vises can be used either as a Sliding Jaw or a common Screw Vise by simply turning in or out the small screw in backside of the head or base. It will hold work with a more powerful grip than any other Vise. The screw will never work loose when either chipping or filing. The workmanship is perfect; all the working parts are made of steel and interchangeable. Sold by all Hardware Dealers. Send for Descriptive Circular and Price List to

C. D. LEET, Bridgeport, Conn.



If you contemplate the erection, extension, or alteration of any Mill, Factory, or Mechanical Works of any sort, requiring Steam, Water, or Gas to be introduced, it will well repay you to send for our Catalogue and Price-List. It contains upwards of 600 Cuts, and will be found of service to Pipe-Fitters, Engineers, Superintendents of Railroads, Mills, Factories, Water, Ice, Oil and Gas Companies, and all who are interested in the use of Steam, Water, and Gas, and is an exhaustive book of reference for the selection of such goods.

Steam

Wrought-Iron Pipes, Cast-Iron Pipes, Boiler Tubes, Spiral Riveted Wrought-Iron Pipes, Cast-Iron Fittings, Wrought-Iron Fittings, Malleable Iron Fittings, Bent Coils of Wrought-Iron Pipe for Heating, Boiling, &c., Steam Radiators, Brass and Iron Cocks and Valves, Radiator Valves, Openway Valves, Boiler Trimmings, Gauge-Cocks, Steam Gauges, Water Gauges, Steam Whistles, Lubricators, Oil and Tallow Cups, Revolution Counters, Gongs, Steam Boiler Tube Cleaners, Steam Boiling Kettles, Feed-Water Heaters, Pressure Regulators, Damper Regulators, Steam Traps, Glue Heaters, Injectors, Inspirators, Steam Pumps, Syphon Pumps, Engine Governors, &c.

Contractors for
Steam-Heating Apparatus
of all kinds.

Water

Wrought-Iron Pipes—Plain and Galvanized, Heavy Cast-Iron Pipes, Fittings of all kinds, Cast-Iron Soil Pipe, Green-House Boilers, Pipe and Fittings, Pumps of every description—Steam- or Hand-Power, Fire Hydrants and Valves, Street Main Valves, Foot Valves, Hose Valves, Pipes, Couplings, &c. Bath Boilers, Brass Water-Cocks and Valves in Detail.

Gas

Wrought- and Cast-Iron Pipes, Cast, Wrought, and Malleable Iron Fittings, Brass Fittings, Service and Meter Cocks, Gas Burners, Solder Furnaces, Gas Valves, Street Lamp-Posts and Lanterns, Gas-Fitters' Tools and Sundries.

Tools

Hand and Power Pipe-Cutting and Threading Machines, Pipe Stocks and Dies, Pipe Taps, Drills and Reamers, Machinists' Die-Plates, Machinists' Taps, Solid Bolt Dies, Pipe-Tongs, Adjustable Tongs, Pipe-Wrenches, Monkey-Wrenches, Gas-Fitters' Pliers, Augers, Pipe-Cutters, Pipe Vises, Chisels, Ratchets, Gas-Fitters' Pumps, Boiler-Tube Brushes and Cleaners, Boiler Tube Expanders, Hydraulic Punches and Jacks, Patent Hand Hoisting Machines, Oilers, Hammers, &c.

Correspondence solicited from parties requiring any Goods in the above lines.

MENTION THIS PAPER WHEN YOU ADDRESS US.

McShane & Bell Foundry

Fine Iron and Brass Castings Made to Order.



Manufacture those celebrated Bells for Tower Clocks, Court-Houses, Cotton Mills, Factories, &c. Prices and catalogues sent free. Address H. McSHANE & CO. Baltimore, Md.

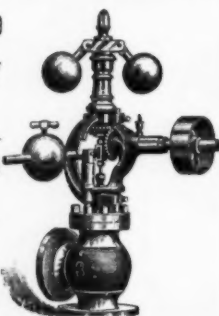
The Gardner Governor.

Over 30,000 in Use

Adapted to every style of stationary and portable steam engines.

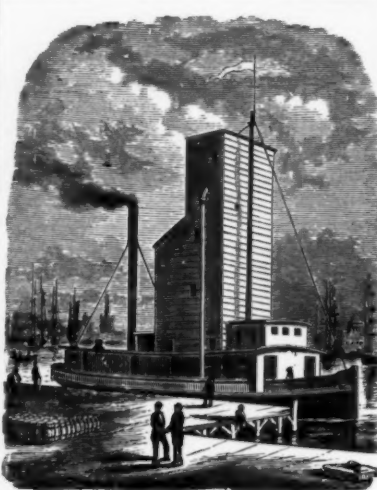
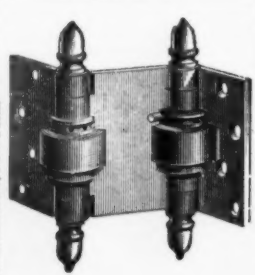
Warranted to give satisfaction, or no sale. For Circulars and Prices address

The Gardner Governor Co.
QUINCY, ILL.



UNION SPRING HINGES

are Simple, Easily Set. Cannot be put on wrong. They work either way, right or left. All sizes. Single and Double. Light Doors they have no equal. Sole Agent, Price List, M. W. ROBINSON, Sole Agent, 75 Chambers St., New York.



F. H. FOLSOM,
Millwright and Mechanical Engineer,
48 S. Frederick St., BALTIMORE, MD.

All work executed and Drawings furnished at shortest notice for Floating and Stationary Elevators, Flour Mills, Malt Houses, Breweries, Saw Mills, Fertilizer Factories, Sumac Mills, Paper Mills, and all other kinds of Machinery.—Orders by mail promptly attended to at lowest prices



Agent for Seldner's Improved Belt Fastener.

—Send for Circular and Sample.—

Established 1793.

H. BALDERSTON & SON,
MANUFACTURERS OF

WIRE GRATING FOR WINDOWS

Doors and Office Railing, Wire Screens for Banks, Churches and Store-Fronts. Woven Wire, Wire Tree-Guards, Sieves, Screens for Coal, Sand, &c.

66 S. Calvert Street, Baltimore.

WIRE RAILING

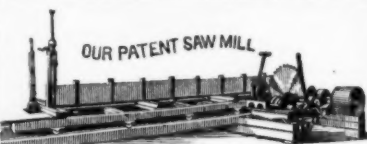
and Ornamental Wire Works.

DUFUR & CO. 36 N. Howard St., Baltimore.

Wire Railing for Cemeteries, Lawns, Gardens, Offices and Balconies; Window Guards, Tree Guards, Wire Cloth, Sieves, Fenders, Cages, Sand and Coal Screens, Iron Redsteads, Chairs, &c.

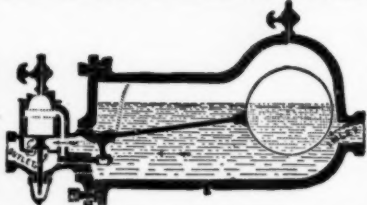


AULT & WILBORG,
PRINTING INKS.
CINCINNATI.
A&W INK USED ON THIS PUBLICATION.



TAYLOR MFG. CO., Chambersburg, Pa.
JACKSON & TYLER, Agents, Baltimore.

The CURTIS STEAM TRAP.



Has main valve outside. Air valve inside.

MANUFACTURED BY

Curtis Regulator Co., 158 Beverly St., Boston.

—GENERAL AGENCIES:—

109 Liberty St., New York; No. 19 N. 7th St., Philadelphia; 86 and 88 Market St., Chicago; No. 49 Holliday St., Baltimore; No. 707 Market St., St. Louis; No. 745 Craig, Montreal.

NELSON CURTIS, Agent.



STEPHENS' VISES.

FLAT and SWIVEL BASES; SOLID JAWS STEEL FACED and SOLID STEEL BARS; ADJUSTABLE ATTACHMENTS.

For Jewelers, Machinists, Car and Locomotive Works and all other Vise Work they maintain their superiority in strength, firmness of grip, durability and make; while affording the greatest economy in time and labor. Special Vises for Amateurs and Wood-Workers. Sold by the Trade. Send for Circular.

MELVIN STEPHENS, Proprietor,
Office, 41 Dey St., NEW YORK.

TOOLS. IMPROVED POWER OR HAND PLANER.

Planes 27 in. long, 12 in. wide, 8 in. high.

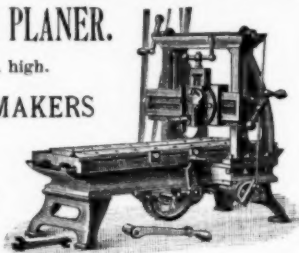
MACHINISTS, ENGINEERS, MODEL MAKERS

and all classes of Mechanics can find TOOLS to suit them at

134 to 188 Washington St.

BOSTON, MASS.

A. J. WILKINSON & CO. Catalogues free.



THE BLESSING PATENT RENEWABLE SEAT.

Phosphor Bronze Stop and Check Valves.

The Renewable SEATS and DISCS are cast from the best PHOSPHOR BRONZE METAL, which has lasting qualities, double that of the best Steam Metal commonly used in first class valves.

The Seats do not have to be screwed in and out, but are simply dropped into their places, and are held in position by the bottom of the cage, which is cast on cap.

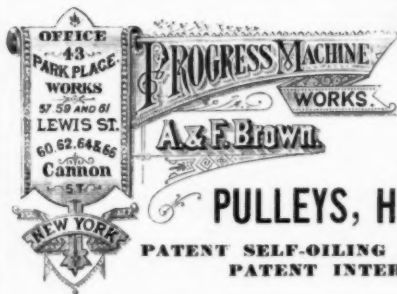
ALSO, RETURN STEAM TRAPS.

MANUFACTURED BY

The Albany Steam Trap Co.,

Office and Works,
78 and 80 CHURCH STREET,

ALBANY, N. Y.



PATENT STEEL SHAFTING

Of Superior Quality.

PULLEYS, HANGERS, COUPLINGS, &c.

PATENT SELF-OILING HANGERS,
PATENT INTERNAL CLAMP COUPLINGS,
PATENT FRICTION CLUTCHES.

A. & F. BROWN, 43 Park Place, N. Y.

STUEBNER & WOODS

168 & 170 E. Third St., Hunter's Point
LONG ISLAND CITY, N. Y.

MANUFACTURERS OF

COAL DEALERS AND STEVEDORES' SUPPLIES.

STEEL and IRON COAL TUBS,

Side and Bottom Dumping Cars, Coal and Coke Barrows,

HOISTING BLOCKS, ETC.

Send for Circulars, &c.

PATENT CLASP PULLEY

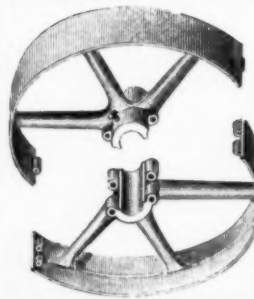
Made in Halves. Same Price as Whole Pulleys.

Shafting, Hangers.

Castings of Every Description Made. Stationary, Distillery, Mill and Boiler Work.

JNO. N. MARQUETTE,

No. 6 W. Falls Avenue, Baltimore, Md.



GOVERNORS { For Water Wheels } Cohoes Iron Foundry & Mch. Co. Send for Catalogue. Cohoes, N. Y.

—ESTABLISHED 1774.—

FLOURING MILLS.

BUHRS 1774. ROLLS 1882.



This Company owns and operates three Mills, as follows:

Patapsco Mill A, Ellicott City, Md. Patapsco Mill B, Baltimore, Md.
Patapsco Mill C, Orange Grove, Md.

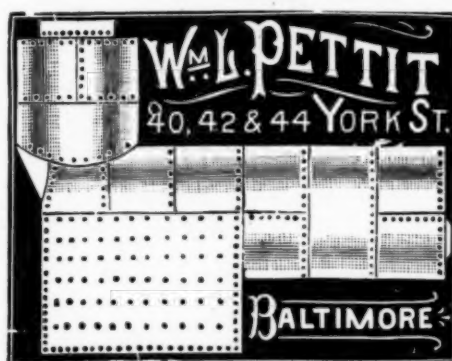
—Having a daily capacity of 1,500 barrels.—

The value of Flour depends on the proportionate quantity of Gluten, Starch, Sugar and Phosphate of Lime Maryland and Virginia Wheat, from which our Patent Roller Flours are manufactured, is unequalled for its purity and superior quality of alible properties.

ASK YOUR GROCER FOR

Patapsco Superlative Patent. Patapsco Choice Patent. Patapsco Family. Cape Henry Family.
Patapsco Extra. North Point Family. Chesapeake Extra. Bedford Family. Orange Grove Extra

C. A. GAMBRILL MFG'G CO.
Office. 32 Commerce St., Baltimore, Md.



W. L. PETTIT
40, 42 & 44 YORK ST.
BALTIMORE

NOVELTY BOILER WORKS.

MANUFACTURER OF

HIGH AND LOW PRESSURE

Steam Boilers,
Tank and Sheet Iron Work.

Estimates furnished for New
Work and Repairs.

I make a specialty of SCOTCH BOILERS,
the most economical in fuel, requiring
very little repairs.

JOHN R. EDWARDS,
Blank Book Manufacturer,

LITHOGRAPHER, PRINTER AND STATIONER,

167, 169 AND 171 W. LOMBARD ST. COR. SHARP ST.

—BALTIMORE, MD.—

Specialty: Account Books to order for Manufacturing Establishments, Banks
and Insurance Companies. Estimates Furnished.

John G. Mengel & Co.
—LEADING—
Type-Founders and Electrotypers

Modern Book, Newspaper, and Job Type cast in a superior
Copper-Mixed Metal, and on the new

JUSTIFIABLE SYSTEM OF BODIES.

LARGEST PRINTERS' SUPPLY HOUSE in the SOUTH

Dealers in and Agents for all the leading Cylinder
and Job Presses, Paper-Cutters, &c., &c.

Agents for the Celebrated German Printing Inks.

SECOND-HAND MACHINERY Bought, Sold, and Exchanged.

Complete Newspaper and Job Offices Furnished at the Lowest
Prices and on good terms.

Send for Specimen Sheets, Estimates, &c., to

31 German Street, Baltimore.

GRAND HOTEL



BROADWAY and 31st St., NEW YORK.

EUROPEAN PLAN.

HENRY MILFORD SMITH & SON, Proprietors.

ADAMS HOUSE,



BOSTON.

BAY STATE HOUSE,

WORCESTER, MASS.

W. L. SHEPARD, Proprietor.

This House has been thoroughly repaired and renovated, and will be KEPT STRICTLY FIRST-
CLASS IN EVERY RESPECT.

The Only First-Class Hotel in the City.

Rates, \$3.00 and \$3.50 per day

The True Idea of Assurance.
Women's Mutual Insurance and ACCIDENT COMPANY.

PRESIDENT,
ELIZABETH B. PHELPS.
FANNY M. GERARD, Treas.

VICE-PRESIDENT,
MARGARET HOLCOMBE.
ELIZABETH S. ROBERTS, Secy.
MEDICAL EXAMINERS,

CORNELIA KAMPING, Actuary.

ALFRED K. HILLS, M. D., 465 Fifth Avenue.

MARY PUTNAM JACOBI, M. D., 116 W. 34th Street.

JOHN A. KAMPING, Attorney and Counsel, 126 Broadway, New York.
The Company is incorporated under the Laws of New York, approved by the Supreme Court and Superintendent
of the Insurance Department, and subject to the latter's supervision.

ITS OBJECT
is surely and cheaply to provide an indemnity for loss by
death and accidental disablement.

ITS PLAN
consists in assessing the members ratably according to age
in the Life Class, and according to occupation or degree of
risk in the Accident Class whenever a loss in either class
occurs. In other words, the actual losses only are paid by
the policy holders, which thus secures insurance at cost.

ITS MEMBERSHIP
comprises persons between the ages of 16 and 67, of ap-
proved physical condition. The Life Class is separate and
distinct from the Accident Class, members being liable for
losses only occurring in the class to which they belong.
This company, having been organized for the purpose of
removing the prejudices which created discrimination in
Life insurance against women, has adopted the broad prin-
ciple of no discrimination in membership on account of sex.
This Company requires Agents in every city, town and village, to whom liberal terms will be given. Address as above.

ITS SAFETY AND SECURITY
consists in its economical system, its certainty of solvency,
(for it incurs no risk but what the members may discharge
by one assessment), and its SECURITY RESERVE FUND, which
in time, it is calculated, will make a member's member-
ship self-sustaining.

ITS RATES OF ASSESSMENT
are safer than those adopted by others, and are no more
expensive.

Finally,
This company confines itself to the legitimate business for
which insurance has been accorded protective and encour-
aging legislation; it proposes to adhere strictly to business
principles in its management, and to establish the fullest
protection to its members in a manner the simplest, cheap-
est and most complete of any organization of equal safety.
Membership may be acquired by letter. Apply to

ELIZABETH S. ROBERTS, Secretary.

283 Fourth Avenue, New York.

SEEDS

Our Illus-
trated Cata-
logue of

Peter Henderson

& Co.,

35 & 37 Cortlandt St.,
New York.

—AND—
PLANTS

For 1885.

"EVERYTHING FOR THE GARDEN,"
full of valuable cultural directions, containing three colored
plates, and embracing everything new and rare in
Seeds and Plants, will be mailed on receipt of
stamps to cover postage (5 cents). To customers of last
season sent FREE without application.

WESTINGHOUSE, CHURCH, KERR & CO.

Contracting and Consulting
Mechanical Engineers.

Design and furnish Everything Pertaining to the

Generation, Transmission and Application of Power.

17 CORTLANDT ST., NEW YORK.

E.W. BLISS
PRESSES & DIES.
FINE ENGINE LATHES AND SHAPERS
SPECIAL MACHINERY FOR TIN & SHEET
METAL WORKERS
PLYMOUTH, PEARL & JOHN ST'S. } BROOKLYN, N.Y.

WORK-SHOPS

Without Steam Power

SHOULD USE

BARNES'

Patent Foot Power Machinery, COMPLETE

Outfits for actual workshop business.

With them Builders, Cabinet

Makers, Metal and Wood Work-

ers compete with steam power.

Machines on trial if desired.

Proof of value, prices, full

detail, illustrated catalogue, free.

W. F. & John Barnes Co.

Rockford, Ill.

Address No. 221 Ruby St.

Dealers, send for Discounts.



Barnes' Pat. Upright Drills.
20-inch Swing, with both
Worm and Lever Feed.



Barnes' Patent Engine Lathe
15-inch swing, 6-foot or 8-foot
Bed. These machines are made a
specialty in our factory, they have
advantages not found in other
machines in this line. It will pay
parties desiring to purchase, or
know more about this class of
machines, to send for full description
and prices.

W. F. & JOHN BARNES,
221 Ruby St., Rockford, Ill.

STEEL CASTINGS

FROM 1-4 to 15,000 lbs. WEIGHT.

True to pattern, sound, solid, free from blow-holes, and of unequalled strength.

Stronger and more durable than iron forgings in any position or for any service whatever.

20,000 CRANK SHAFTS and 15,000 GEAR WHEELS of this steel now running prove this.

CRANK SHAFTS and GEARING specialties.

STEEL CASTINGS of every description.

Send for Circulars and Prices to

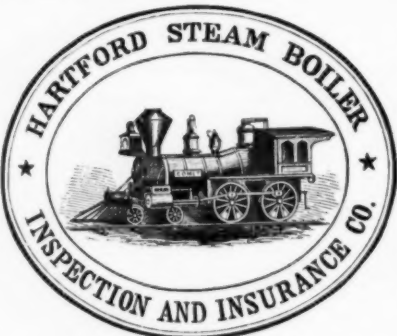
CHESTER STEEL CASTINGS CO.

Office, 407 Library Street, Philadelphia.

Works, Chester, Pa.

—ISSUES—
POLICIES OF INSURANCE

AFTER



A CAREFUL INSPECTION
OF THE
BOILERS.

Covering all
Loss or
Damage to

Boilers, Buildings & Machinery

ARISING FROM STEAM BOILER EXPLOSIONS.

The Business of the Company Includes All Kinds of Steam Boilers.

Full information concerning the plan of the Company's operations can be obtained at the
COMPANY'S OFFICE, Hartford, Conn., or at any agency.

M. ALLEN, Pres.

W. B. FRANKLIN, Vice-Prest.

J. B. PIERCE, Secty.

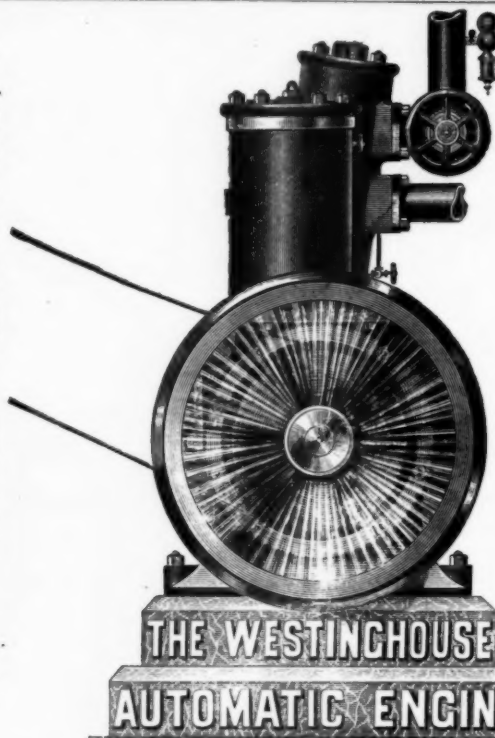
—BOARD OF DIRECTORS—

J. M. ALLEN, President.
LUCIUS J. HENDEE, President, Aetna Fire Insurance Co.
F. W. CHENEY, Asst. Treas. Cheney Bros. Silk Mfg. Co.
CHARLES M. BEACH, of Beach & Co.
DANIEL PHILLIPS, of Adams Express Co.
G. M. BARTHOLOMEW, Pres't American National Bank.
R. W. H. JARVIS, Pres't Colt's Fire Arms Mfg. Co.
THOMAS O. ENDERS, Secretary Aetna Life Insurance Co.
LEVERETT BRAINARD, of Case, Lockwood & Brainard.

GEN. WM. B. FRANKLIN, Vice-President Colt's Patent
Fire Arms Manufacturing Co.
GEO. CROMPTON, Crompton Loom Works, Worcester.
WILLIAM ADAMSON, of Baeder, Adamson & Co., Phila.
HON. THOMAS TALBOT, Ex-Governor of Massachusetts.
NEWTON CASE, of Case, Lockwood & Brainard, Hartford.
NELSON HOLLISTER, of State Bank, Hartford.
CHAS. T. PARRY, of Baldwin Locomotive Works, Phila.
HON. H. C. ROBINSON, Attorney-at-Law, Hartford.

LAWFORD & McKIM, Agents for Maryland, 10 S. Holliday St., Baltimore, Md.

1,300 ENGINES NOW IN USE!



40,000 Horse Power now Running!

SALES, 2,000 H. P. per Month.

SEND FOR ILLUSTRATED CIRCULAR and REFERENCE LIST.

THE Westinghouse Machine Co., Pittsburgh, Pa.

SALES DEPARTMENT CONDUCTED BY

Westinghouse, Church, Kerr & Co., 17 Cortlandt Street, New York.

Fairbanks, Morse & Co., Chicago, Cincinnati, Cleveland, Louisville and

St. Paul. Fairbanks & Co., St. Louis, Indianapolis and Denver.

Parke & Lacy, San Francisco and Portland, Oregon. Parke,

Lacy & Co., Salt Lake City, Utah, and Butte, Montana.

Keating Implement & Machine Co., Dallas, Texas. D. A.

Tompkins & Co., Charlotte, N. C. Imray & Co., Sidney

and Melbourne, Australia. R. Rogers, 43 Rue

Lafitte, Paris. F. E. Averill, Delft, Holland.

THE BERRYMAN Patent Feed Water Heater and Purifier

The Shells of the Berryman are of C H No. 1 iron, and tested to 175 pounds cold water. Every heater is guaranteed to be absolutely tight, making it the only Feed Water Heater applicable to a Condensing Engine, increasing the vacuum and imparting a high degree of heat in the feed water, saving eight to ten per cent.

THE BERRYMAN

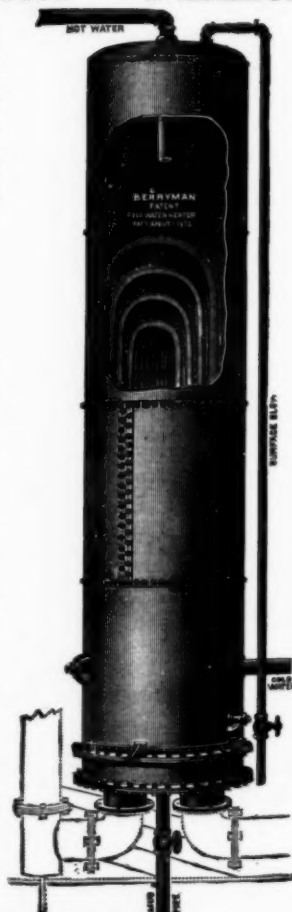
has been in constant use for more than 12 years in all parts of the United States and Europe, and none have ever needed repairs. It gives the highest result attainable by the use of exhaust steam.

Boiler repairs, and the vexation by shutting down when in a hurry, are saved. The trouble and expense of throwing out a poor heater and putting in a good one are saved by the use of THE BERRYMAN FEED WATER HEATER AND PURIFIER.

All Oil or Fatty Matter is excluded from the boilers, as the feed water and exhaust steam do not come in contact by the use of THE BERRYMAN FEED WATER HEATER AND PURIFIER.

I. B. DAVIS & SON,

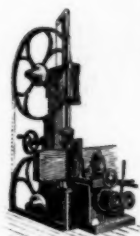
Sole Proprietors & Manufacturers in the U. S. Office & Works, HARTFORD, CONN.



P. PRYIBIL, 461 to 467 W. 40th Street,
NEW YORK.

MANUFACTURER OF SUPERIOR

WOOD-WORKING Machinery.



SHAFTING, PULLEYS, HANGERS, &c.

Send postal card for 72-page catalogue.

PHOSPHOR-BRONZE



The celebrated alloys in Wire, Rods, Sheets, Bolts,
Wire Ropes, Wire Cloth, Castings, Ingots, etc.
Pamphlets and particulars on application to

THE PHOSPHOR-BRONZE SMELTING CO., Limited.

No. 512 ARCH STREET, PHILADELPHIA, PA.

Owners of the U. S. Phosphor-Bronze Patents.
Sole Manufacturers of Phosphor-Bronze in the United States.



TRADE MARK.



COVERT'S PATENT HARNESS SNAPS, CHAIN & ROPE GOODS,

ADJUSTABLE SOLDERING IRONS, &c.

These Goods are sold by all Leading Jobbers in General and Saddlery Hardware, at manufacturers' prices. Send for illustrated catalogue and price list.

COVERT MFG CO., West Troy, N. Y.

Union File Co.

311 to 315 North St., Baltimore, Md.

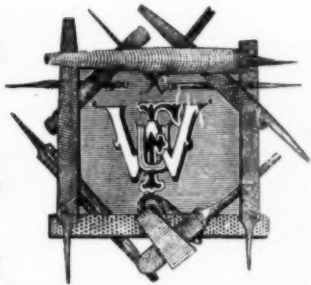
MANUFACTURERS OF

FILES & RASPS

Made from the Best Refined Cast Steel.

With the requisite facilities to produce a first-class article, we are enabled to offer Files that will give entire satisfaction.

MORITZ & KEIDEL, Agents, 48 & 50 German Street, Baltimore, Md.



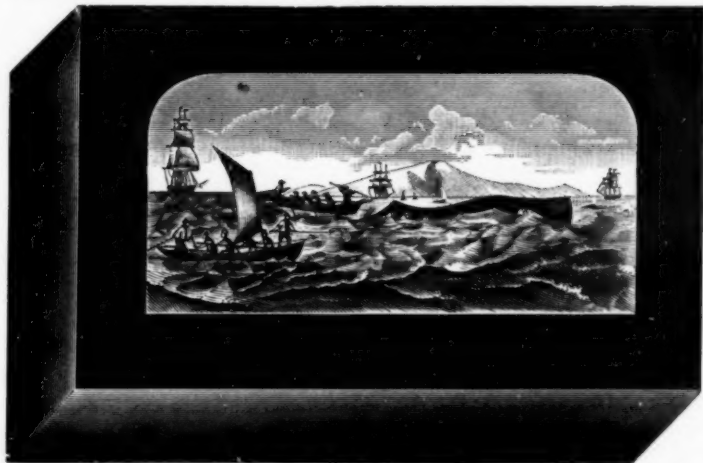
The Oldest Oil House in the City. Business Established 1832 (on Present Premises.)

WM. C. ROBINSON & SON,

81 SOUTH ST., BALTIMORE, MD.

Manufacturers and
Wholesale Dealers in

OILS!



Specialties—Oils for Cotton and Woolen Mills, Railroads, Tanners' and Machinery Use.

Our Colophony Cylinder Oil is the best in use, 650° fire test, 28° gravity. Perfect Engine Oil 600° fire test, 30° gravity. Colophony Engine Oil 550° fire test, 23° gravity. Agent for Downer's Spindle, Champion and Mineral Sperm, Meriam & Morgan's Paraffine Co's Paraffine, William's Odorless Lubriphene Oils. Also Manufacturers' Agent for 25°, 28° and 30° Paraffine, and 31° Neutral Bloomless Oils. Correspondence solicited.

ROADS, MINES and FARMS.

FORSTER'S

Rock Breaker.

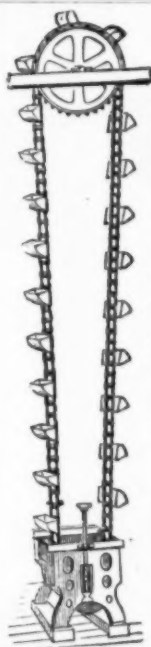
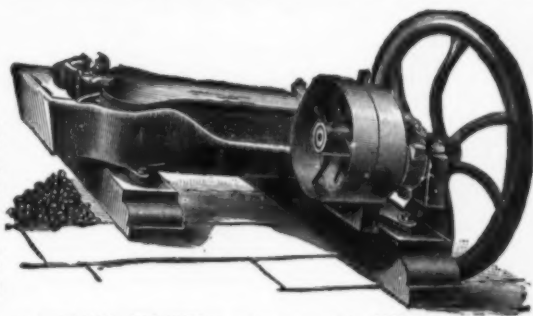
Owing to its peculiar **SIDE MOVEMENT** does not "batter" the stones as all other crushers do, but makes ballast and macadam equal to **HAND HAMMERED**.

Very simple and inexpensive to operate. The only Crusher that can be operated with ordinary Horse Power.

Planers will please notice that **SMALL MACHINES** can be operated by **HAND**, by attaching Dies the machine will crush and pulverize Phosphate Rock for Fertilizing, in one operation.

ADDRESS

TOTTEN & CO., Rolling Mill and Machinery Founders,
PITTSBURGH, PA.



ANTI-FRICTION Roller Detachable Chain Belting.

Especially adapted for the rapid and economical handling of **CLAY, TILE, LIME, PLASTER, CEMENTS, BROKEN STONE, COAL, ORES, SAND, DRY and WET TAN, SAW DUST, SLABS, PULP, GRAIN, FLOUR, ICE, &c., &c., &c.** For **ELEVATORS, CARRIERS, CONVEYERS, &c., &c.** Propelling **STEAMBOATS** and for other **DRIVING PURPOSES**.

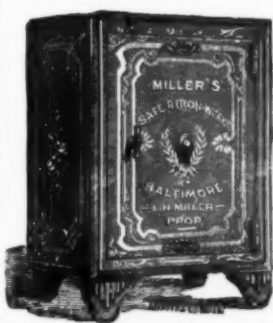
MANUFACTURED AND SOLD BY THE

Lechner Manf'g Co.

COLUMBUS, OHIO.

Send for Illustrated Catalogue.

Established a Quarter of a Century in the Manufacture of the Celebrated **MILLER SAFES.**



L. H. MILLER, SAFE AND IRON WORKS, BALTIMORE, MD

Sole Manufacturer of

Miller's Patent Fire & Burglar Proof Safes,
BANK VAULTS, DOORS AND LOCKS.

PRINCIPAL OFFICE, 252 W. BALTIMORE ST.

(NEAR HANOVER.)

Factory—Square bounded by Warner, Claret, Henrietta and Fremont Sts., South Baltimore.

CAREW'S * PATENT * WIRE * CUTTER.



These goods have recently been greatly improved. They are now made throughout of

FORGED STEEL.

The advantage of this cutter is seen at a glance. The adjustable jaws are its main feature. These are made of the best tool steel, and are brought to a keen cutting edge before being tempered. The cutting quality is unsurpassed. Whenever they become dulled by use, they can easily be removed, by driving from the end showing price-mark, ground, and as easily replaced. This may be repeated as often as expedient; or they can be replaced by duplicate jaws, thus obviating the necessity of purchasing new cutters. Five sizes 6, 8, 10, 12 and 14 inch.

M. W. ROBINSON, Sole Agent, 79 Chambers St., N. Y.

S. W. RITTER, Millwright,

—BUILDER OF—

Flour and Saw Mills, Drug and Chemical Works, Portable Mills, Smut Machines, Mill Stones, Bolting Cloths, Brushes, Guano Fertilizer

Mills, and General Mill Supplies,

261 S. Caroline Street, BALTIMORE, MD.

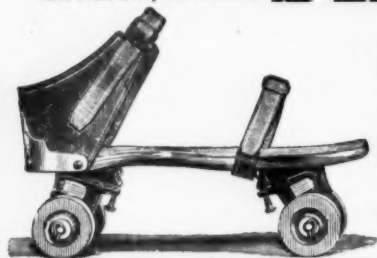
HENLEY'S CHALLENGE ROLLER SKATE.THE LATEST AND BEST
And Most Complete Scientific**SKATES** IN THE MARKET.**HENLEY'S IMPROVED CHALLENGE
RINK AND CLUB SKATES.
LIBERAL TERMS TO THE TRADE.**

For prices, circulars and further particulars, address

**M. C. HENLEY, Patentee and Manufacturer,
RICHMOND, IND.**

Send four-cent stamp for new forty-page Illustrated Catalogue.

MENTION MANUFACTURERS' RECORD.

**THE RICHMOND GLOBE ROLLER SKATE,**

The Easiest Running, Most Durable, and Most Practical Skate in the Market.

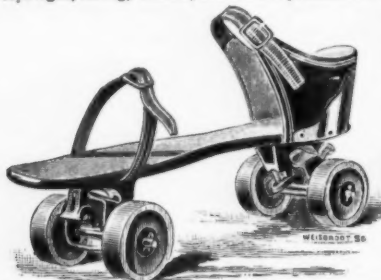
Rink men and jobbers will find the "GLOBE" skate to be superior to all others, because:

It has no springs, rivets or pins to break, get loose or wear out. It will not crush the rubber cushion, as their new connecting plate prevents crushing. Our patent lock washer prevents the wearing of lynch-pins and wheels running off. The wearing of the bearings being automatic, the truck frame will not become loose or rickety from long use. The tension is easily regulated by means of the draw-bolt, to suit the requirements of any skater. The truck frame can be instantly detached without removing the draw-bolt. It is light, strong, durable, and skaters pronounce it the best skate made.

We are now working on a "CLUB" skate which will soon be ready. It will be a toe clamp, steel bottom, elegantly plated with nickel, will be the handsomest skate in the country, and will have all the excellent points of the rink skate.

U. S.—Our new Patent Steel Bottom is so formed that it can be made of very light material, and yet have all the strength necessary.

For prices and catalogues, address

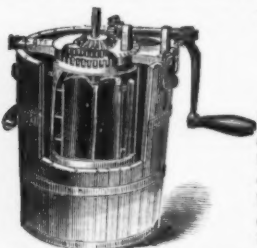
**MITCHELL & VANNEMAN,
RICHMOND, IND.****Gooch Peerless and Giant Freezers.**Increase of Sales Nine
Hundred Per Cent.
since 1879.

These Freezers have grown into such popularity that they are universally acknowledged by the trade to be without an equal, and are kept in stock by most of the leading dealers in every State of the Union.

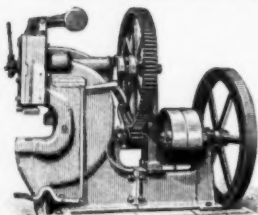
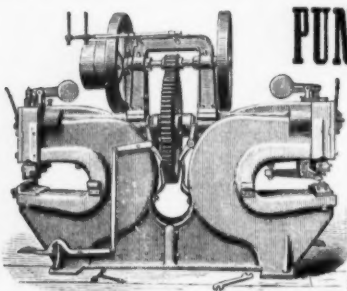
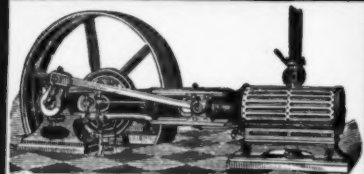
We scarcely ever lose a customer who tries our goods, and all we ask is an order for a sample, and we will send you the best and handsomest Freezer you ever saw.

SEND FOR SAMPLE.

MANUFACTURED BY

**THE GOOCH FREEZER COMPANY,
CINCINNATI.****THE LONG & ALLSTATTER CO., Hamilton, Ohio.****PUNCHES, SHEARS & HAMMERS,**DOUBLE,
SINGLE,
HORIZONTAL,
TWIN BOILER,
SPACING GATE,
MULTIPLE ANGLE,
BAR, & C.
BELT AND STEAM
DRIVEN.

Send for Catalogue.

**THE CUMMER ENGINE CO.**CLEVELAND OHIO
SEND FOR 150 PAGE ILLUSTRATED CATALOGUE.

Awarded highest premiums at Cincinnati and Louisville Expositions of 1883, for "Best Automatic Engine." We will furnish anyone copies of the ORIGINAL ENTRIES of several engine builders who claim they were not competing with us. They all entered in the same class with us, and now by deceptive Circulars (one headed "Fact versus Falsehood") attempt to mislead. No premiums were offered for Condensing Engines.

AUTOMATIC**W. J. CHAPMAN,** Direct Shipper Special attention given to orders from foundries and machinists.
Office, York and William Sts.
Connellsville Coke.**HOWELL'S Patent RAIN WATER CUT-OFF**

HIGHEST PREMIUM AWARDED

WHEREVER EXHIBITED

TO THE PATENT

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

HOWELL'S PATENT

RAIN WATER CUT-OFF.

RECOMMENDED BY ARCHITECTS, BUILDERS
USERS, EVERYWHERE.

For turning water into or off from the cistern. The handle, which is an iron weight, insures the bucket remaining where placed and entirely prevents its being turned by the downflow of water. The bucket or valve passes behind the rim at the top and overlaps at the bottom, thus securing perfect water joints at both connections. We manufacture all sizes from 2 1/2 to 24 inches; 2 1/2 inch, \$5; 3 inch, \$6; 3 1/2 inch, \$8; 4 inch, \$9; 5 inch, \$14; 6 inch, made of 1X Tin, \$20. These sizes are always in stock. Packed in crates of one dozen each size up to 5 inch; 5 and 6 inch in crates of 1/2 dozen each; f. o. b.; no charge for crates. For sale by dealers all over the United States.

G. W. HOWELL, Manufacturer, COVINGTON, KY.**Standard Smelting and Refining Works,
METALS,**BABBIT METALS.
TINNERS' SOLDER.
PLUMBERS' SOLDER.
COPPERSMITHS' SOLDER.
ELECTROTYPE METAL.
STEREOTYPE METAL.
INGOT BRASS.

162, 164, and 166 Water Street,

CINCINNATI, O.

INGOT COPPER.
PIG TIN.
ANTIMONY.
PIG LEAD.
SPELTER.
BAR LEAD.
BAR TIN.

Genuine Babbit Electrotpe and Stereotype Metals a Specialty. Daily quotations furnished upon application. Prices lower than any Eastern or Western market.

**A First-Class Automatic Cut-Off Engine,
EXTREMELY SIMPLE TO HANDLE AND CONTROL.**

Can be produced cheaply, and an ordinary Slide Valve Engine can be converted into the best Automatic Cut-Off Engine at a trifling expense.

A Saving of 33+ Per Cent. in Fuel guaranteed by adopting the **Topmiller Automatic Valve Gear.**

To manufacturers of Engines we offer State and County rights for sale on reasonable terms. Send for illustrated circular.

S. OBERMAYER & CO.

Patentees and Proprietors,

Evans Street, South of 8th, Cincinnati, O.

H. J. McKEOWN,**MACHINIST * AND * MILLWRIGHT.**

Shafting, Hangers and Pulleys, Engineers' Supplies, Packing, Sheet Gum, Pipe, Fittings, and Brass Goods. Special attention given to fitting out shoe and other factories, and to the repair of Gas Engines. Has now on hand five Wais' Patent Power Combined Splitting and Squaring Shears, which are new, and may be had on reasonable terms. Also dealer in New and Second Hand Machinery of all kinds. Write for Catalogues.

196 E. FRONT STREET, CINCINNATI, OHIO.

**SCALE IN BOILERS!
The DANGER and REMEDY!**Steam Users should realize the Danger and Extravagant Waste of Fuel resulting from Scale in Steam Boilers. We offer you a perfect Remedy in our **Boiler Powder**, which is absolutely harmless to Boilers or Connections. For particulars address,**OHIO SCALE SOLVENT CO.,**C. W. WITHEMBURY, Secretary,
Room 27 Glenn Building.

Cincinnati, Ohio.

C. H. & D. R. R.Cincinnati, Hamilton and
Dayton railroad.

From and to CINCINNATI.

TOLEDO, SAGINAW, NIAGARA FALLS, DETROIT, TORONTO, AND ALL POINTS IN MICHIGAN AND CANADA.

CONNEERSVILLE, RUSHVILLE, BLOOMINGTON, INDIANAPOLIS, PEORIA, AND ALL POINTS WEST OR NORTHWEST.

RICHMOND, LOGANSPOET, DELPHI, CHICAGO, MONON, AND ALL POINTS IN THE NORTHWEST.

FORT WAYNE, KALAMAZOO, PETOSKEY, GRAND RAPIDS, MACKINAW, AND ALL POINTS IN MICHIGAN.

FULLMAN PALACE SLEEPERS AND PARLOR CARS.

For information apply at any Railroad Office in the United States or Canada. In Cincinnati, Ohio, at Offices: N. W. Corner Fifth and Vine Streets, or Depot, Fifth and Hoadly Streets, or address

J. F. MCCARTHY, Agents at
J. N. R. MCCORD, 5th and Vine Sts.,
Cincinnati, O.**SAM'L STEVENSON,**
General Ticket Agent.

KNOWLES STEAM PUMP WORKS,

BUILDERS OF

Single and Duplex Steam and Power Pumping Machinery

44 WASHINGTON ST.

BOSTON.

93 LIBERTY ST.

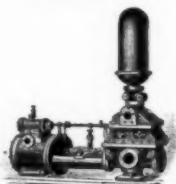
NEW YORK.



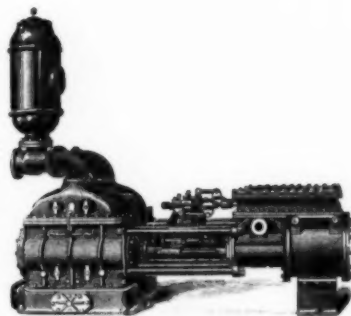
PUMP AND CONDENSER.



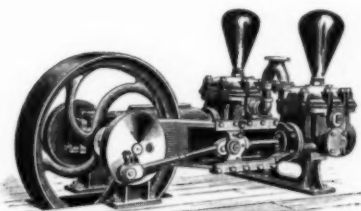
PRESSURE PUMP.



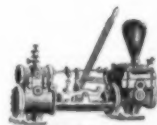
FIRE PUMP.



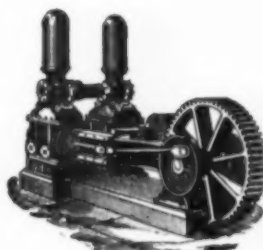
COMPOUND PUMPING ENGINE.



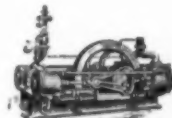
DUPLEX BELT PUMP.



BOILER FEED PUMP.



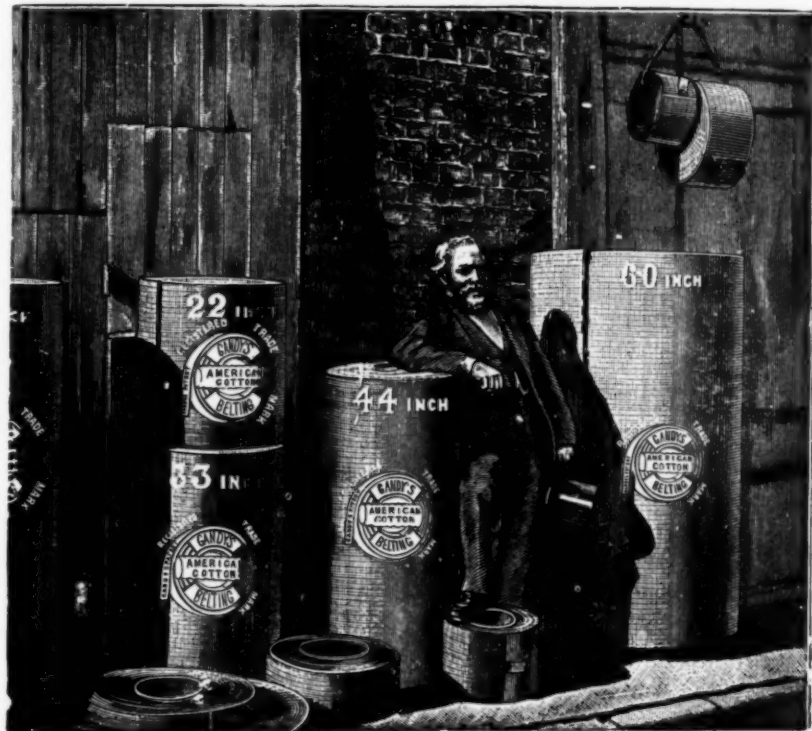
GEARED POWER PUMP.



AIR COMPRESSOR.

SEND FOR
ILLUSTRATED
CATALOGUE,
WITH
Price-Lists.

ESTIMATES
FURNISHED
—ON—
APPLICATION.
CORRESPONDENCE
SOLICITED.



SILVER MEDAL AWARDED AT THE "NATIONAL EXPOSITION OF RAILWAY
APPLIANCES," CHICAGO, JUNE, 1883.

GANDY'S PATENT

AWARDED MEDALS AT

Berlin.....1879.
Hamburg.....1876.
Sydney.....1879.

New Zealand.....1882.
Cincinnati.....1879.
New York.....1880.

MACHINE BELTING

Made Perfectly Straight and any Length without Joints.

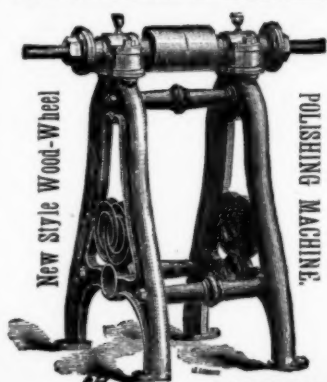
For Main Driving it is the Best.

—Much Cheaper than Leather.

MANUFACTURED BY

THE GANDY BELTING CO.

BALTIMORE, MD.



New Style Wood-Wheel

POLISHING MACHINE.

UNION STONE CO.

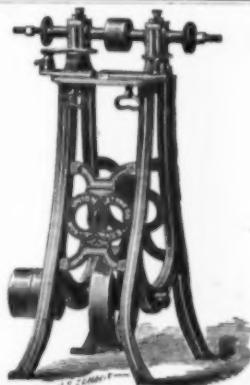
Wood-Polishing Wheels a Specialty.

Best Material and Workmanship. Iron Bushings and
Perfectly Balanced.

38 & 40 HAWLEY STREET, BOSTON.

CATALOGUE ON APPLICATION. SPECIAL CONTRACTS FOR LARGE ORDERS.

JACKSON & TYLER, Agents, 16 and 18 S. Howard Street, BALTIMORE, MD.



GEO. V. CRESSON,

PHILADELPHIA

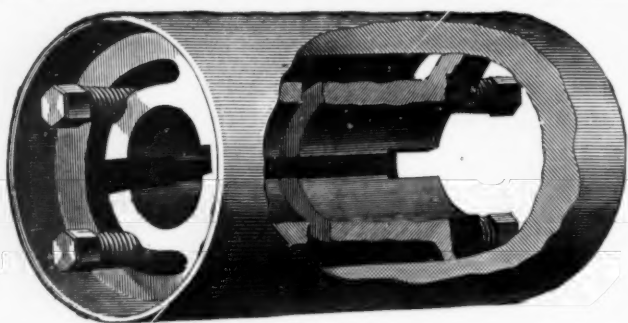
Shafting Works,

18th and Hamilton Streets, Philadelphia, Pa.

—MANUFACTURER OF—

SHAFTING,

And all the Appurtenances used in the
TRANSMISSION OF STEAM POWER.



Patent Internal Clamp Coupling for Shafting.

Most easily applied and removed, and has a much stronger grip on Shaft than any other Coupling yet invented.

In use by all First-Class Machinists and Manufacturers.
Many Thousands in Practical Use.

ROBT. WETHERILL & CO.

CHESTER, PA.

ESTABLISHED 1872.

Corliss Engine

BUILDERS,

Condensing, Non-Condensing,
Compound,
Great Economy, Durability,
Close Regulation.

BOILERS, Shafting and Gearing.

CORLISS PUMPING ENGINES,

—CITY WATER WORKS—

Chapman Valve Mfg. Co.

—MANUFACTURERS OF—

STEAM, GAS and WATER

VALVES and GATES

FIRE HYDRANTS.

WITH OR WITHOUT INDEPENDENT VALVES.

General Office and Works, INDIAN ORCHARD, MASS.

Treasurer's Office,

Mason Building, 72 Kilby and 112 Milk Sts., Boston.

—ALL WORK GUARANTEED.—

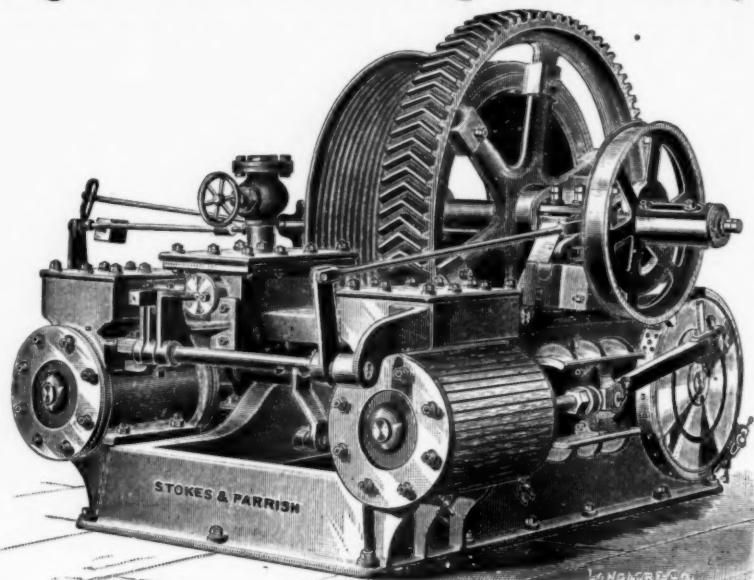
Send for Descriptive Circulars and Price-List. Correspondence Solicited.



STOKES & PARRISH,

PHILADELPHIA.

High-Grade Hoisting Machinery.



BLAST FURNACE HOIST,

With Vertical or Horizontal Cylinder Engines. Hoisting Machinery for
Mines, Blast Furnaces, Inclined Planes, Portable Hoisting Machines.

Hydraulic and Steam Power Passenger and Freight Elevators.

Safety—Speed—Smooth Action.

All Kinds of HOISTING MACHINERY a Specialty.

Works and Office, 30th and Chestnut Sts., Philadelphia.
New York Office, 95 and 97 Liberty St., New York.

GUARANTEED

"Gilbertson's Old Method" Extra Coated Roofing Plates.

In view of the fact that we guarantee the "Gilbertson's Old Method" to be a heavier coated plate than either "M.F." or "Old Style" and if not found so, boxes to be held subject to our order, the following letter recently received by this firm (unsolicited on our part) is of value, as it comes from a roofer having many years experience.

Monroeville, O., Dec. 22, 1884.
Messrs. MERCHANT & Co.,
Philadelphia, Pa.

DEAR SIR:—

After twenty-five years experience running a tin shop, doing roofing work, etc., I am free to say that I have never seen any plate that equals the "Gilbertson's Old Method" Terne lately purchased of you. It is all you claim for it, and on my own buildings I shall use no other, and shall try and have my customers let me use it for them, as I consider it economy to do so.

Yours truly,

R. G. MARTIN.

MERCHANT & CO.

525 Arch St., Philadelphia.

90 Beekman St., New York.

BUFFALO CUPOLA and FORGE BLOWERS,

PORTABLE FORGES,

Blacksmiths' Hand Blowers,

STATIONARY BLAST FORGES,

HEATING AND ANNEALING FURNACES.

Buffalo Forge Co.

490 BROADWAY, BUFFALO, N. Y.

